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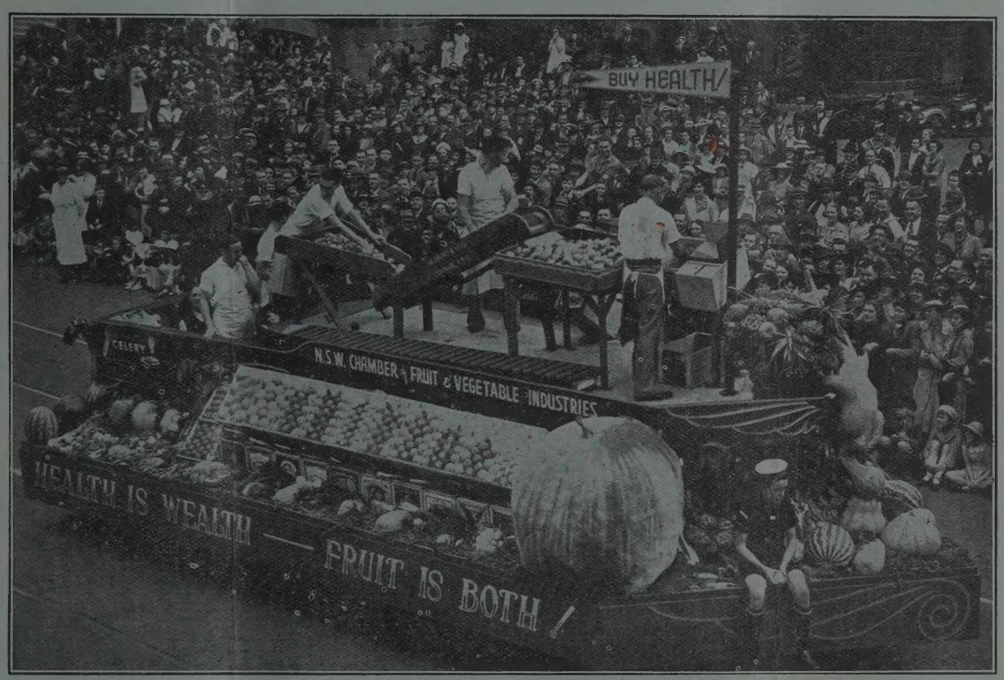

Illustration of Float of Fruit and Vegetables which was entered by N.S.W. Chamber of Fruit and Vegetable Industries, in the Commercial and Industrial Pageant held in New South Wales during April. A full description of this Float appears on page 29 of this issue.

THE "LIGHTNING"
INDEPENDENT SECTION SIZER
For Citrus Fruits
WITH SINGLE SIDED BINS OR DOUBLE SIDED BINS
This is something altogether new in the application of Independent Section Sizers for Citrus Fruits. All of the outstanding features of the "Lightning" Count Grader have been retained and added to by positively driven independent sections.
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For Twenty-five Years "BLUE BELL" Arsenate of Lead has Proved a Faithful Friend to Growers.

Extract from "Better Fruit" (U.S.A.), Spraying and Pest Control Edition, February, 1937.

CODLIN MOTH CONTROL

By Arthur D. Borden, University of California.

"LEAD ARSENATE is our standard spray material to-day. None of the many substitutes which have been tested have proved to be as toxic and effective in control."

Arsenate of Lead (Paste or Powder), Lime Sulphur, Special Copper Mixture (Fungicide), Spray Spreader, White Oil, Nicotine Sulphate, Red Oil, etc.

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PRUNING and RE-SHAPING TREES

The Importance of Properly Sealing Cuts

FOLLOWING the rigorous Winter of 1936-37 in California, with its consequent damage to trees, farmers everywhere were faced with the necessity of pruning and reshaping their trees. This pruning is in a way comparable to the operation of a surgeon on the human body. When he cuts, he uses great care to stop the flow of blood. The tree surgeon should recognise this seeming relationship between humans and trees and treat them accordingly, using the same intelligence in stopping the sap flow as the surgeon does with the flow of blood after an operation.

To elaborate a little, water exerts .47 pounds pressure to the square inch per foot in height, so a tree stump, say five feet in height, would exert 2.35 pounds pressure. The most perfect pumping machine that man can make can raise water by suction only thirty-three feet at sea level.

A Pine tree a hundred feet in height exerts a great suction, many times what man can create to raise water to that great height, so there must be a powerful vacuum to bring about the continuous flow of sap to its uppermost heights and tiniest needles.

In a previous article I explained how trees talk. This gave me some very definite ideas about the pruning of trees and their care immediately following such operations.

Housewives know that a jar of canned fruit improperly sealed, will draw air and ferment. Why? Because the air contains bacteria. That is exactly what happens in the limb or trunk of a tree when left for nature to heal it. Farmers have found that trees or big limbs when cut do not heal over, but rot or decay. It is because the air follows the sap down the trunk, which is a veritable suction line, making an audible sound as the sap flows down.

We discovered that sound by accident, just as many great discoveries have been. It seemed so simple an explanation for a great many of the ills of trees that we wondered why so simple a phenomenon had passed unnoticed so long.

Beginning even in the nursery, with the small budded trees, great care should be taken with the stubbing off after budding. Some nurserymen are not careful to seal the cut above the bud, consequently the rot follows down the canal of suction and the heart of the tree decays.

I would stress the point that nurserymen, after stubbing off, **should immediately seal the cut, thereby stopping the suction with its consequent decay.**

Mr. Nigh, a successful propagator, after being told of my discovery, tried out the sealing method on large limbs in pruning. Not long ago he said, "It is little short of a miracle the way cuts heal over where immediately sealed."

A lady at Fullerton had a tree which I cut off about five feet from the ground. At my suggestion, she put her ear to the cut and said, "Why, it almost whistles!" That tree had a pressure of 5x.47 or 2.35 pounds to the square inch, which caused the air to rush downward, carrying any decay fungus that might be present with it.

In my work of grafting avocado trees, I have found that after cutting off a tree, which I do near the ground, it is not safe to wait even five minutes to seal it over. I do my sealing immediately after setting the graft, which is within a very few minutes.

The sealing method I use is very simple. I apply to the cut surface a heavy coating of emulsified asphaltum and then stick several layers of white paper over that.

The results have been amazing. Grafts grow from a stump so treated like magic.

On a ranch near Whittier I grafted a double tree. I cut each off three feet from the ground and grafted each to the same variety. One tree came out perfectly and the other had a bad case of sunblotch. For three years I wondered why one was healthy and the other diseased.

After making the suction discovery I decided that the healthy tree was the last one I cut down but grafted first, and the other had to stand thirty minutes or more after cutting before it was grafted and sealed. In the meantime, the damage was done, and though the grafts grew on this stump they were diseased. **Hence my deduction that it was that half hour of waiting that caused the trouble.** Even the suckers that came out on this particular stump were diseased.

What has this natural phenomenon to do with the pruning industry to-day? Just this: **In all pruning jobs when a sizeable cut is made, it should be sealed over at once.** Apply the sealing emulsion over the wound as quickly as possible, so as to stop the sap flow and the inrush of bacteria-laden air into the heart of the tree.

Nature will take care of small cuts, but cuts larger than one inch should be sealed.

No matter how high the tree or limb, or how large, after amputation, stop and seal the cut. Your chances of recovery from pruning will be better and, if for grafting, success will be much more likely.—R. G. Calkins, in "California Cultivator."

FERTILISERS AND SOIL ACIDITY

Some Recent American Views.

IN September, 1937, a meeting of the Fertiliser Division of the American Chemical Society was held at Rochester, New York, and many interesting papers were presented on the manufacture and use of various fertilisers in modern agricultural practice.

Mr. H. B. Siems, of the Swift Fertiliser Co., presented a very valuable paper on problems associated with the production and use of non-acid forming fertilisers (American Fertiliser, 87: 8, Oct. 16, 1937). Mr. Siems emphasised the fact that the continued use of acid-forming fertilisers may greatly reduce the crop producing capabilities of many soils, unless steps were taken to supply adequate dressings of lime to overcome the acidity which results from the use of such fertilisers. The value of non-acid forming fertilisers is now widely recognised, and their superiority on many soils which are poorly buffered or which have a natural acidity which is marginal for profitable agriculture has frequently been clearly demonstrated, and it has been found that the non-acid forming fertilisers have given higher crop yields than the corresponding acid forming types. In regard to nitrogenous fertilisers, Mr. Siems states that often farmers have a preference for natural vegetable or animal manures which contain a high content of organic nitrogen. Extensive tests conducted at various agricultural experiment stations, however, have shown that when inorganic sources of nitrogen (such as nitrate of soda or sulphate of ammonia) are used correctly, the results obtained are frequently better than those obtained from the organic forms of nitrogen. It was suggested that when unexpected crop results were obtained from the use of a natural source of organic nitrogen, the differences are probably not due to the form of nitrogen, but to other substances such as small quantities of minor elements which may be present as impurities.

In a paper presented by Dr. F. S. Lodge, of the National Fertiliser Association, stress was again laid on the value of neutral or non-acid forming fertilisers (American Fertiliser 87: 7, Oct. 2, 1937). Dr. Lodge points out that all ammonia forms of nitrogen and most of the organic forms leave an acid reaction in the soil, whilst the nitrate form and cyanamid leave an alkaline reaction. Dr. Lodge further states that the investigations of many agronomists have shown that the difference in the effects of different forms of nitrogenous fertlisers can be measured by the residual effect of the material in the soil, that is, whether its residual effect is acid or alkaline and to what extent it affects soil reaction.

The subject matter of these papers should be of particular interest to Australian farmers, orchardists and market gardeners as many of the soils in our higher rainfall areas are naturally acid in reaction, and in the lighter sandy soils which are poorly buffered, the use of acid-forming fertilisers will tend to increase the acidity of the soil and thus burden the grower with the additional costs of buying and applying lime to correct the harmful effects of high soil acidity.

Some of the most widely used nitrogenous fertilisers are distinctly acid in their reaction, and growers would be well advised to make careful inquiries about the acidity or alkalinity of the source of nitrogen which they intend applying to their land. Many growers will undoubtedly appreciate the information that Chilean Granulated Nitrate of Soda is an alkaline fertiliser which is non-acid forming, and that it has a marked beneficial effect on the reaction of the soil as it conserves the calcium or lime and thus helps to prevent the development of acid soil conditions.

FERTILISERS ANALYSED.

That producers are well served as regards the quality of fertilisers supplied by manufacturers is the tenor of a report by the Chemist of the Victorian Department of Agriculture (Mr. W. C. Robertson). Of the 23 samples inspected and analysed last year, only one sample proved to be an infringement of the act, all of the other fertilisers equalling or exceeding the quality guaranteed.

Only two samples of superphosphates were collected, the manufacture of the fertiliser being so efficiently controlled that during more than 30 years not one infringement of the Act has been disclosed. The excess value is equal to 2/1 per ton, or a discount of 2.7 per cent. on every ton of superphosphate which was purchased at the registered price.

The average calculated value of the three samples of complete manures was £6/15/2, whilst that guaranteed was £6/6/4 per ton, an excess of 8/10 per ton.

Although the composition is not so readily controlled, inspection proved that the comparative figures of the average analysis of the fourteen samples of blood and bone collection showed an excess value of 5/9 per ton.

There was a solitary instance of the prosecution by the Department of a partnership in a small way for failures to supply certificate as to contents. On examination it was found that more than double the value had been charged. The purchase price was refunded and the manufacturers were prosecuted and penalised.

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THE FRUIT WORLD & MARKET GROWER

AN EXCELLENT ADVERTISING MEDIUM BECAUSE OF ITS WIDE AND COMPLETE CIRCULATION.

ADVERTISING RATES ON APPLICATION.

A Monthly Newspaper published in the interests of the Berry Growers, Deciduous, Citrus, Dried and Canned Fruitgrowers, and Market Gardeners.

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News of the Month

Advertising Fruit in the United Kingdom.

The view put forward by Mr. J. T. McKinley, Representative in London of the Tasmanian State Fruit Board and those of Mr. W. M. Carne, Fruit Research Officer, on the subject of advertising our fruit in the United Kingdom have received the earnest attention of the Australian Overseas Trade Publicity Committee.

The first-mentioned would like to see Tasmanian Apples advertised as such instead of "Australian." Mr. Carne advocates more educational publicity to increase the consumption of Apples generally. After many years of experience and close observation, the Publicity Committee is convinced that there is solid goodwill in the name "Australia," which applies to all Australian products marketed and advertised in the United Kingdom—dried fruits, canned fruits, dairy produce, eggs, etc., and that it would be a retrograde step to particularise any State. Canadian Apples are marketed as "Canadan," U.S.A. as "American," South African as "South African," New Zealand as "New Zealand," etc., etc. Apart from this, however, specific assistance has been given by the use of shop tickets marked Tasmanian Sturmers—this variety being Tasmania's long line.

To accomplish Mr. Carne's suggestion it would be necessary to pool the Apple advertising allocations of the various Dominions, and those of Britain as well as foreign countries, and this would not be easy of accomplishment, as each country, so far, has preferred, in accordance with established business practice, to carry out specific propaganda when their fruits are on the market. Apart from such specific value as is attached to this procedure, there is, of course, the general application which assists in creating an "Eat More Fruit" conscience. At the present it is possible at any time to intensify advertising and propaganda in order to assist in clearing a market to prevent a glut.

It might be possible, however, for each country concerned to pool a portion of its advertising allocation to the general work of educational propaganda, the value of which is fully appreciated. Material of such a convincing nature is so abundantly available that the housewife could be impelled to an Apple preference in fruit; this work should be carried out all the year round.

All constructive suggestions for improving our advertising and marketing conditions are at all times welcome. It should be mentioned that Mr. Hyland, the London Director of Australian Trade Publicity, has the complete confidence of the committee, in fact, more trade extension work is done than is readily apparent. Posters and display advertisements have their part in a general propaganda scheme, but in addition, Mr. Hyland has developed a Trade Extension System under which trained men visit all parts of the United Kingdom to see that shopkeepers have on hand the goods that are being advertised. Very considerable trade developments, with many products have followed this procedure.

Empire Preference.

As we are going to press, the Australian Trade Delegation, headed by Sir Earle Page, Minister for Commerce, has arrived in London.

In an interview with the press, Sir Earle Page states he anticipates, as a result of the negotiations to be made, improved shipping facilities between Australia and Ceylon, India and Egypt will be available. Reciprocal trade had been discussed at Colombo; negotiations are proceeding for better facilities between Australia and intermediate ports between here and London, also the subject of cold stores at various ports, including Port Said.

Before the Delegation arrived, press reports indicated that discussions between British and U.S.A. trade delegates were nearing completion. It is understood that the principle of Empire preferences is to remain, but there may be slight reductions in relation to certain industries. From one source it was understood that the present preferences relating to dried and canned fruits would not be reduced. In particular, the canned fruits industry is putting up a strong case for preference on the basis of straight-out duty as opposed to the present duty on an ad valorem basis.

The British press forecast was that the preference on Australian and New Zealand fresh Apple exports might be slightly reduced, this, however, being subject to the safeguarding of seasonable arrivals. If this means that America will not send Apples to compete with seasonable arrivals in U.K. of fresh Apples from Australia and New Zealand, such a compromise would doubtless meet with approval.

"The Times," in a leading article, states:—"There is no intention on the part of any Government to depart from the principle of Empire preferance. The desire is rather to give that policy a more elastic interpretation and thus contribute to international trade generally."

Members of the Australian Trade Delegation, together with New Zealand interests, are fully in touch with the realities of the situation, and the results of the negotiations are awaited with the keenest interest.

GOODMAN'S

FruitTrees

PLANTED AT GOVERNMENT'S RESEARCH ORCHARD

THE Victorian Government ordered 3,455 trees from Goodman's Nurseries last year for the planting of a Research Orchard at Tatura. . . Here is further evidence as to the high all-round quality and value of trees raised by this nursery. Our aim is to produce and supply to all our clients first-class trees only. Repeat orders from all parts of the Commonwealth and many places abroad prove the success of this policy.

Every order, large or small, from near or far, receives careful, prompt attention. Ask for 1938 catalogue.

C. J. GOODMAN

Picnic Point Nurseries, Bairnsdale, Victoria.

Apple and Pear Export.

Despite early trade expectations of depressed markets in the United Kingdom this season, the prices for Apples and Pears are holding at a satisfactory figure. So far there appears to be a reasonable anticipation that fair prices will continue.

The unfortunate frosts in Great Britain and portions of the Continent have so heavily reduced the soft fruit crops that it must inevitably have some bearing on prices for our late and other fruits. It would also appear that money is being more freely circulated in the old country, thus improving the purchasing power of the people.

Spray Residue.

Among the many burdens imposed on Apple and Pear growers, one of the most irksome is that of washing or wiping to get rid of the spray residue to within a tolerance of .01 arsenic trioxide per lb. of fruit.

These restrictions were imposed by British authorities, and in consequence the Australian Government has had to fall into line and issued regulations accordingly. The washing or wiping has proved costly, both in regard to the actual operation and in the damage done to the fruit.

Many suggestions have been made to obtain relief, but every time one comes up against the stonewall of the British regulations.

The time is overdue for these British regulations to be reviewed. What is the justification for the imposition of the tolerance?

Following the action of the British authorities in imposing the tolerance restrictions, the U.S.A. Government adopted similar procedure.

In this issue we publish the findings of a medical man in U.S.A. who has made extensive researches into this matter, and he condemns the regulations. Apart from experiments on rats and guinea pigs, a man was found willing to consume arsenate of lead in proportions far beyond that allowed tolerance. He started off by taking doses of .0115, gradually increasing to 1.15. No ill effects were suffered, in fact there was no effect at all, the man was normal all through.

Attention is directed to this article. The hope is expressed that the requisite action will be taken through the proper channels to bring about a speedy rectification of the present very unsatisfactory position.

As Spraying is a Necessity
—then use the World's Best—

NEPTUNE SPRAYS . . .

The better quality of NEPTUNE Sprays is always obvious by comparison with others. NEPTUNE Sprays conform to the highest standards, and they are consistently uniform in strength and quality. Successful orchardists recommend them. Try them yourself and prove that they're better!

NEPTUNE PREPARED RED SPRAYING OIL ("A," "C," or Heavy Base)
NEPTUNE PALSOL (Prepared Pale Oil)
NEPTUNE CLARIFOL (Winter White Oil)
NEPTUNE WHITE SPRAYING OIL (Summer Spray.)
NEPTUNE LIME SULPHUR SOLUTION (Clear, amber-coloured, free from sludge)
GENUINE MACCLESFIELD BLUESTONE
CHEMICAL SULPHUR (23871)
BERGER'S ARSENATE (Powder or Paste)
COLLOIDAL LEAD ARSENATE
ENGLISH BLUESTONE SNOW
GENUINE BLACK LEAF 40
NEPTUNE LIME
POWDERED SULPHUR
COPPER SPRAY
NEPTUNE SPRAY SPREADER

NEPTUNE OIL CO. PTY. LTD. (INCORPORATED IN N.S.W.) ALL STATES

PERSONAL

Mr. H. W. Soothill, general manager of the Producers' Markets Co-op. Ltd., and the Mount Barker Co-operative Limited, recently returned from his visit abroad and is actively engaged in his manifold duties, in the performance of which he has won the esteem of all with whom he is associated.

Mr. R. E. Downie, who for the past seven or eight years has been general sales manager for Gerrard Wire Tying Machines Co. Pty. Ltd., has resigned and completes his work for that company at May 31 next.

Mr. W. Grinsley, who has been associated with Messrs. A. Victor Leggo & Farmers Ltd. for the past 22 years, has now joined the firm of Messrs. Hart & Co. Pty. Ltd., Whiteman-street, South Melbourne, Vic.

Mr. E. H. Wragg, Secretary of the "Fruit World," visited Sydney during April. A visit was paid to the new Sydney Markets, almost completed. He found that although apparently adequate provision had been made for vegetable growers' market, the wholesale fruit markets were still operating under the same unsatisfactory and congested conditions as in the past.

Mr. C. E. Rudduck has been appointed sales manager of Messrs. A. Victor Leggo & Farmers Ltd. For many years Mr. Rudduck has been associated with the technical department of this firm.

NEWS IN BRIEF

The demand for cider is increasing. The cider factory at Hobart is operating on an extended scale.

Qualitative restriction is advocated in Tasmania to regulate the interstate marketing of Apples.

A severe frost in England wrought severe damage to orchards. Growers fear the worst season for years.

Letters to the Editor

Monetary Reform Advocated

The Editor, "Fruit World."
Sir,

In your recent issues I have read with much interest the letters on the subject of "Power Alcohol from Fruit," which latter is described as "Waste Fruit." From the context it appears that this "waste" means surplus production, which the population cannot purchase. The question then arises why can they not buy the good food which is there waiting to be consumed.

If we turn to other commodities we find that it is not only fruit which is surplus, but that practically everything in common daily use is oversupplied, owing to the fact that science has overcome the difficulties which perhaps a century ago caused a lack of many things required for man's sustenance and comfort.

Does this mean that every human being is supplied with all requirements? Are all abundantly fed, well clothed and comfortably housed?

We know that this is not the case, since many many, millions are half starving, ill clothed, and without homes.

The problem, then, is clearly one of distribution, and when we examine the question as to what is causing this failure in the distributing system we find at once that it is a shortage of purchasing power which is **money**.

Now what is money? It is almost entirely figures in the ledgers of the bank, since approximately only one per cent. of money is actually cash, that is, coin and notes. To say, then, that we cannot find the money is the equivalent to saying that there is a shortage of figures. The truth of this is seen in war time, when money is poured out like water to carry on the fiendish slaughter. In the last days of the Great War Britain on her own account and on behalf of the Allies was spending close on ten million pounds daily.

There is no market like the home market, since requirements are known and freight is less. The problem would be solved if there were buyers for the goods and the way to attain this result is to distribute purchasing power so that all may be able to obtain their requirements, enabling them to live in the comfort which modern industry can provide to the full.

This is an age of power machinery, and in many cases the machines are automatic. For example, the "rayon" machine only requires to be supplied with the raw material and it produces the finished article without further aid. There are boot and shoe machines which only require to be fed with leather and twine and they turn out the finished article ready to wear when the laces have been inserted. Looms are similarly self-acting; one female attendant can supervise 210 looms, which in a day of 8 hours can produce two miles of perfect cloth. These are only a few instances, and inventors are daily producing machinery which is rapidly displacing human labor which should under a reasonable system be a great blessing and provide leisure to all.

If, now, purchasing power is distributed by means of a National Dividend, which might aptly be described as the wages of the machine, to all, then every man, woman and child could live in comfort and poverty be forever banished from our midst. Man would then have leisure to use his higher faculties, mental and spiritual, and would evolve at an ever-increasing rate since each would engage in the occupation for which by choice and capacity he was most suited and would have ample leisure for study, recreation and development. War would cease since its cause, which is competition for foreign markets would no longer exist as the Home Market would be available, and nations would live in friendly relationship with one another and economic security for all and freedom would be realised.—Yours, etc.,

A. S. GAZZARD.

Box 16, Norfolk Island, 31/3/38.

Gravensteins for Export

The Editor, "Fruit World."
Sir,

I still think the Gravenstein Apple should be reinstated on the export list. We had a big crop of Gravensteins last year, and they came in with the Jonathan Apple and the Melbourne market was glutted with them and hundreds of cases were taken out of the cool store and dumped. They ruined the market for the Jonathans, which never recovered for the season. If a few thousand cases could have been exported, it would have saved the market; this is a big loss to the grower and the State. This year we had a light crop of Gravensteins, which were selling up to 9/- per case in Melbourne market, and left the market clear for the Jonathans, which are bringing a fair price.

When I was in London in 1930 I saw American Gravensteins selling at 9d. per lb. on the barrows in the streets of London, and our Gravensteins are superior to the Americans in color. I've been informed that America and Italy sent Gravenstein Apples to England in 1937, and they brought good prices. Why eliminate the Victorian Gravenstein Apple?

When I was in London I went to Australia House. Australian Apples were selling from 7d. to 8d. lb., about ½ mile from Covent Garden Market, and in St. Davids Railway Station, Exeter, they were 10d. lb. When in Cornwall, I had a talk with a shopkeeper. He had some Tasmanian Sturmer Apples, plain grade, 2¼ inch, at 6d. lb. I said to him, "Why don't you get Fancy or Choice?" He said, "The public has as much as ever they can do to buy these, without higher priced ones." I think that shopkeeper knew better what the public required, better than our Export Council. By eliminating the plain grade, millions of the working class are unable to purchase our fruit; they cannot buy higher class Apples. We must cater for all classes.

To be able to cater for the millions of the different classes, the growers must organise and build packing houses, employ expert packers, and be able to send under a few brands or marks; the ships must go where fruit is required.

There are too many overhead charges. There must be less expense before our Apples reach the public.

When I was in England the ships called at Southampton and stopped there a day, and then went round to the Docks at London. Our Apples were carried 15 to 20 miles to Covent Garden Market, and then after changing hands a few times, they found their way back to Southampton again.

Australia and N.Z. are lucky to have the English market in the Summer, from the beginning of May to the end of August, when the people are most prosperous. There are a few American Apples on the market when the Australian Apples arrive; and there are Australian Apples on the market when the American Apples arrive. We have four months on the English market.

Tasmania and Australia sent 3,839,729 cases of Apples last year to United Kingdom for between 40 or 50 million people. This is not much if the people can get our Apples at a reasonable price from 4d. to 6d. per lb. There would be no fear of glut in English market for our Apples.—Yours, etc.,

W. J. MOFFATT.

Blackburn, Vic., 18/4/38.

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Power Sprayer
—— Keeps the Mixture in the barrel as even at the end as at the beginning of Spraying. ——
Information with pleasure.
Russell & Co.
Box Hill, E.11
Victoria

Democrat and Granny Smith Apples

The Editor, "The Fruit World."
Sir,

Towards the end of March I received a case of Democrat Apples from a grower in the Goulburn Valley. The quality was excellent. I distributed some of these Apples among my friends. Some who knew the Democrat Apple were astonished that supplies were available so early in the season, as they had previously looked upon this variety as a late one. Others —and these were in the majority— did not know the variety at all. There is a surprising lack of information among the public generally as regards Apple varieties. I consider growers would do well to include the advertising of varieties in their propaganda. Personally, I am familiar with all the commercial varieties, but this is not the general experience among the public.

On March 18 I bought some Granny Smiths from the Railway Fruit Stall at Flinders-street, Melbourne, but these were immature.—Yours, etc.,

MRS. W.J.S.

Elwood, Vic., 26/4/38.

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Use "ELEPHANT" Brand Arsenate of Lead—Quality Stands Alone.
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We can supply all your Spray Requirements—ARSENATE OF LEAD (Paste or Powder), SPRAY SPREADER, SPECIAL COPPER MIXTURE, LIME SULPHUR, WHITE OIL, NICOTINE SULPHATE, RED OIL, Etc.
Extract from "BETTER FRUIT," March, 1937, by Dr. R. L. Webster, Entomologist, State College of Washington, Pullman: CODLIN MOTH COVER SPRAYS—"Ever since the imposition of an arsenic tolerance in 1926, and even before that time, investigators have been testing other materials which may be used in place of lead arsenate. Following all these intensive and extensive investigations lead arsenate appears to have certain inherent qualities which place this material foremost as an insecticide for codlin moth control."
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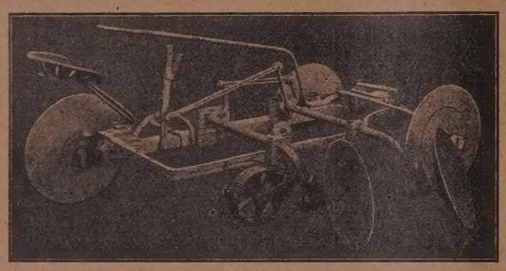

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Two medium horses can work this machine all day without tiring. A machine may be obtained for a trial at any time.

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A sturdy, strong plow equipped with reversible discs to enable the operator to plow up to, or away from the trees. Operated by a single lever and with nothing to catch branches of trees. To facilitate the movement of the plow around the orchard the discs are movable and lift clear of the ground.

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(The Editor, "Fruit World."

Sir,

With regard to the financial difficulties in which the Apple growers of Australia find themselves placed, it seems a great pity that we cannot get down to the cause of the loss to producers on a crop which they have done all in their power to produce to the best of their ability.

During the year every endeavour has been made in the way of fertilising the soil in order that the trees may be put in good heart to provide a bumper crop, cultivation is done with a similar motive, followed by spraying, in order to preserve the quality and quantity of fruit. Then, we have suggested to us that we should destroy a certain quantity of the fruit. This idea is put forward because we find on a great number of occasions that it is impossible to obtain a payable return for our product. Can anyone honestly suggest that the people of Australia can afford to buy as much fruit as they would like to consume?

In my opinion the solution does not lie in more Governmental control. We are practically swamped with this already, and what has been the result—the position becomes worse each year.

So long as taxation takes from all producers in the Commonwealth, one half of their earnings in taxation, and its incidence, the people cannot also have that half of their income to spend on fruit or any other commodity they desire.

So, we suggest that portion of the result of our labor should be destroyed. Surely it should be apparent that if such a policy was pursued by all producers in the community, the result would be an alarming decrease in the wealth of the nation. Can anyone seriously suggest that the present standard of living can afford to be lowered in Australia, where we have men willing to work who cannot obtain employment, appalling slums, old age pensions, because the average man finds it quite impossible to provide for his declining years, farmers' debt adjustment boards to act as a palliative to the farmers in order that they may be stayed from clamoring for a cessation of the unfair burden that is placed upon their backs.

The orchardist has to sell his product on the open market. To give him a fair deal he must be able to buy in a similar manner, instead of which we find him staggering under the burden of one of the highest tariffs in the world. Until the farmer insists on these restrictions being removed, any proposed remedy is doomed to failure.—Yours, etc.,

E. SERPELL.

Doncaster, 23/4/38.

Marketing Apples in England

Dear Sir,

The letters on the marketing of fruit are very interesting and helpful in coming to some conclusion. If I may, I would like to suggest a form of overseas marketing which I feel sure would be more advantageous than the present system.

Instead of having all Apples sent auctioned in the big capitals, thus giving the large buyers or speculators the advantage of purchasing at a low price when the market is glutted, place the fruit in cool store and release as required.

The Southern Victoria Pear Packing Co. has a man already in England. Could he not form sub-agents or branch depots during his slack times, something similar to the American meat companies?

I feel sure that there are thousands of small buyers who are not able to buy at auction and have to pay the speculators their price—to the growers' disadvantage. Of course, this would be an extra expense, but in the long run payable.

And another thing—I agree with the writer that it is nice to see a pretty, clear-skinned, beautifully colored Apple, but from an expert's point of view it is not generally the best eating. A grower seldom picks an Apple off the tree to eat, for he knows one off the ground is well-matured and will eat well. I feel sure that we pay too much attention to appearance instead of maturity and quality. All the nonsense about a slight tree mark, or a depression in the skin is mere bluff to hold so many off the market.—Yours, etc.,

A. M. SANDERS.
Fruitgrower.

Doncaster E., 13/4/38.

VICTORIA.

Panton Hills: The annual show was held at the end of March and opened by Mr. W. H. Everard, M.L.A. High quality fruits and vegetables were displayed. Apples included Jonathan, Grannies, Stewarts, Romes, etc. Pears: Packhams, Keiffers and Williams. Prize-winners included G. J. Smith, J. Cowan, W. J. Miller, A. G. Duff, W. E. Howard, Mrs. H. Scarce, J. Howard, W. Murphy, E. H. Pill, H. J. Masefield. For best Canadian case of Apples packed by children, the prize was won by Vivienne Shanburn.

Now It's Apple Bread

Mr. Werner Iller, proprietor of the Golden Loaf Bakery, Wenatchee, Wash., U.S.A., has developed a process to convert Apples into a form whereby they may be put into bread in large enough quantities to improve the product, but still keep it as light and fluffy as white bread.

It is claimed that 20 per cent. Apples are used. The Apples are processed and the bread is never heavy or soggy.

Mr. Iller has named his product APPEal Bread, and says that it contains the same food value as regular bread, together with the vitamins and other health products of Apples. The brand is copyrighted and you are guaranteed the full amount of Apples that it is possible to use.

"Better Fruit" has received a sample of this bread and find it to be light, white and of a very fine flavor. If the health-giving qualities of the Apple can be given us in a product in such great demand as bread, it would seem that Mr. Iller has made an important discovery. — "Better Fruit," U.S.A.

Japanese Mandarin Oranges.

The Imperial Agricultural Bureau reports that "Much the commonest Mandarin Orange variety grown in Japan is the Unshiu (or Satsuma). It is a comparatively large variety with an average diameter of about 2.4 in. There are, however, various strains. It is exported not only as fresh fruit but also canned. Great Britain takes 84 per cent. of the canned product. From January to June, 1937, the total export was 590,000 boxes, each containing 4 dozen 1 lb. cans.

Arsenic on Apples and other Foods

Medical Man States that Tolerance Restrictions are Unjustifiable

Mr. X Consumes Arsenate of Lead Far in Excess of Tolerance With No Ill Effects.

Quotations from a Paper by Dr. Ira D. Cardiff, Yakima, Washington, U.S.A., read at Recent Annual Meeting of the Washington State Horticultural Association.

ONE OF THE MOST DISCUSSED subjects amongst Apple and Pear growers is that of spray residue.

When the restrictions were first announced, the fruit industry registered its protests, but the local officials every time referred enquiries to the British authorities, who had imposed the tolerance of .01 arsenic trioxide per lb. of fruit.

The difficulties of washing fruit are increasingly difficult, and it is fully believed by competent observers that the washing and wiping of Apples and Pears reduce the quality and carrying capacity.

This matter was debated at considerable length at the last conference of the Australian Apple and Pear Council, and an effort was made to have this matter administered in such a way as not to embarrass commercial export industry, especially in view of the fact that the tolerance question itself was believed to be wrong, and that no instance was on record of any harm having been suffered by anybody through eating sprayed Apples and Pears.

The .01 tolerance applies to all foodstuffs in England, and of course, to Apples and Pears from all sources. A tolerance of .014 arsenic trioxide was then imposed on Apples and Pears sold in America.

Now this matter has been taken up vigorously in U.S.A., attacking the justification of the tolerance itself. A summary of an article in the "Pacific Rural Press" is given hereunder. This subject is one which could profitably be taken up between Australian and British authorities with a view to lifting a burden which should never have been imposed on the industry.

Quotations from the paper by Dr. Ira D. Cardiff before the recent annual meeting of the Washington State Horticultural Association are as follows:—

THE FRUITGROWER has many handicaps, not least of which is the official bureaucrat! It was a small group of these Bureaucrats from the U.S.A. Department of Agriculture who, in 1927, discovered a mare's nest of arsenic, and started a crusade to make the world safe from poisoned Apples. The fact that no one has ever been poisoned by eating sprayed Apples; the fact that sprayed Apples, unwashed, had been consumed by the American and European public for half a century without harm or complaint; the fact that the United States Department of Agriculture had, for near half a century, been recommending the fruit growers to apply more, and yet more arsenate of lead to the growing fruit; the fact that this same department, though furnished with hundreds of skilled scientists and milions of money (by you), had done little or nothing to produce a substitute for arsenate of lead; the fact that the department, with its army of scientists and its splendid laboraories, has done nothing to ascertain the physiological effects of arsenate of lead upon Apple consumers, in fact, has not even posted itself on work done by others, seemed all beside the question. All of these facts were disregarded.

So far as I have been able to ascertain, there is not of record a single well authenticated case of arsenic poisoning from eating Apples.

IF SPRAY RESIDUE is really very dangerous, Washington, as the chief Apple producing State, and by far the greatest consumer of arsenate of lead, should have a high death rate, and the Apple Counties of Washington should have a still higher death rate. Let us examine the record. The average death rate per 1,000 population in the five leading Apple producting Counties of Washington for 1933 was 7.33; for the State as a whole, 9.26, and for the United States as a whole, 10.9. In other words, the country as a whole has a death rate 33 per cent. higher than the five arsenic eating Counties of Washington.

A number of years ago, while connected with the University of Utah, I investigated damage from arsenic to farm crops and especially nursery stock in Salt Lake Valley, where there were located a number of large smelters. These smelters at that time poured very large quantities of arsenic into the air, arsenic in the form of arsenic trioxide, the most poisonous of arsenic compounds. Everything in the valley carried more or less arsenic. Every leaf and spear of grass, all of the water, etc., received a quota of arsenic trioxide, and there was, of course, not a person in Salt Lake City or vicinity who did not daily consume arsenic in many times the amount which would be obtained by eating several sprayed Apples per day. If this arsenic were as dangerous as it is given credit of being, Salt Lake Valley and Salt Lake City should have had an extremely high death rate. Nevertheless, when the Government's vital statistics were published in 1927, they revealed for the ten year period Salt Lake City with the lowest death rate of any city of its size in the United States.

Both arsenic and lead are used in medicine, frequently administered—arsenic trioxide—in amounts of .1 grain per day as a medicinal dose, and this is frequently administered for a number of days in succession. In other words, a person would be obliged to eat 40 fair-sized Apples per day, each carrying the full limit allowed by the Government tolerance in order to get a medicinal dose—this in the form of arsenic trioxide. To get .1 grain of arsenic a day by eating Apples sprayed with arsenate of lead **would necessitate the eating of probably 400 to 4,000 Apples per day on account of the insolubility of arsenate of lead.**

Lead is administered medicinally in the amount of 3 to 4 grains per day. In other words, approximately 200 times the Government tolerance, **or put in the form of eating Apples, one would be obliged to eat 800 Apples, core and all, just meeting the tolerance, to get the amount of lead administered in a usual medicinal dose.**

Recent researches of Dr. Robert Kehoe, of the University of Cincinnati, divulge the fact that lead is everywhere in nature. Virtually all foods and drinks contain more or less lead.

Dr. Kehoe confirmed the researches of Aub and his associates at Harvard some ten or a dozen years ago, who found that practically all lead poisoning or physiological injury from lead arose when lead found entrance to the body by the lungs or the skin, that very rarely, if ever, did lead poisoning arise from ingestion through the gastro-intestinal tract.

INVESTIGATORS from the U.S. Bureau of Fisheries fed rats for five and one-half months, arsenic trioxide in amounts twelve times the Government tolerance, "with no retardation of growth in any of the arsenic fed animals nor any observable differences in their physical vigor or appearance, and in none of them was there any histological evidence of injury to the spleen, liver, or kidney due to the feeding of arsenic at the levels here employed."

These same investigators found in "shrimp sometimes as high as 1.22 gains per pound of arsenic;" 122 times the tolerance allowed Apples.

A person eating a normal amount of Apples in the **normal way** would consume approximately **one-fifth as much lead as is consumed daily from ordinary drinking water.** Furthermore, the lead in drinking water is mostly in the form of a carbonate or chloride, both quite soluble and assimilable by digestive organs, whereas lead arsenate, being very insoluble, is assimilated by the digestive organs with great difficulty, if at all.

So far as I have been able to find in the literature on arsenic and lead, no one has ever used arsenate of lead for experimental purposes with human beings. It has been tried, as stated before, by Professor Talbot on rats, by the New Hampshire Experiment Station on sheep, calves and poultry, by the South Carolina Station on poultry, etc., but never upon man. **It seemed to me desirable that this experiment should be performed, and I finally secured the consent of a man to allow himself to be used as a guinea pig for this purpose.** This citizen of Yakima, whom we'll call Mr. X, commenced taking arsenate of lead on October 13, 1937, and continued taking one dose of the same daily, immediately following his breakfast, increasing the dose as follows:—

Arsenate of Lead—Mr. X.

	As_2O_3 Grains.
October 13	.0115
October 31	.0230
November 9	.0460
November 12	.1150
November 19	.3450
November 25	.6900
November 29	1.15
December 1	Discontinued

It should be noted that the increased dosage was taken daily until the next increase. I had associated with me in this investigation an expert clinician, and a skilled blood specialist.

The dosage was discontinued on December first for a couple of weeks to note if there is any hangover effect.

The experiment is being continued; therefore general conclusions are not warranted. It may be noted, however, that there has been no observable clinical effects and no change in general feeling of health by Mr. X. His blood shows no effect from either arsenic or lead, and his urine shows no marked amount of lead. The urine showed lead in amounts of .0005 grain per pound a couple of times, but the city water on the same day showed approximately the same amount.

It may also be noted that during this seven week period, Mr. X took such a quantity of arsenate of lead that had he obtained the same from eating Apples carrying .011 grains of arsenic per pound, he would have been obliged to eat 72 medium sized Apples per day, core and all, and if he had consumed his Apples in the ordinary way he would have been obliged to eat two or three hundred per day to have got the quantity of arsenate of lead he consumed in the experiment.

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(Ovicidal Wash)

Definitely kills overwintering insect eggs, thereby controlling aphids and all other destructive pests.

Will thoroughly cleanse trees and rid them of Moss, Lichen, Rough Bark, thus destroying the winter home of these Pests.

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I believe I have said enough to indicate that the United States Department of Agriculture's method of attacking this question in 1926-1927 was illconsidered, impetuous, and unworthy the action of a great scientific organisation. The same may be said with still more force in regard to its unwarranted and ill-advised attitude in continuing its campaign in the face of the overwhelming evidence of all investigations pointing to the fact that its attitude is wrong.

As evidence of the impetuous and arbitrary attitude of the United States Department of Agriculture, it suddenly established a lead tolerance of .014 and unofficially announced that it intended to establish a no lead tolerance. In other words, Apples showing a mere trace of lead would not be allowed—this in the face of the fact that numerous recent researches of skilled scientists indicate that virtually all foods contain more or less lead.

It states in the annual reports of the Food Department that the major portion of its appropriation of your money was used upon this spray residue question connected with Apples and Pears. This in spite of the fact that Apples and Pears probably constitute a small fraction of one per cent. of the total food of the consuming public. There are probably hundreds of places where these funds could be spent in the better interest of public health than in this quixotic crusade against the Apple, especially in the face of the fact that no one has ever been hurt from eating Apples.

WHAT is there in the constitution of human nature which makes it want to regulate somebody or somebody's activities? No sooner is a person placed in public office, whether legislative or administrative, than he seems to have an almost insane desire to regulate the other fellow's life and activities—what he shall eat, what he shall drink, and how he shall wear his clothes, even what he shall think—until we now have upwards of a million highly paid (with your money) Federal minions, all energetically trying to regulate us.

Permit me to summarise this matter:—

No one has yet been able to produce any tangible evidence of injury to anyone from eating arsenate of lead on Apples.

Furthermore, the technique of testing for both lead and arsenic is not sufficiently accurate to warrant severe restrictions based upon the same.

All recent researches indicate that small amounts of these and other similar elements are harmless.

Virtually all other foods than the Apple contribute lead or arsenic or both to human diet. Therefore, the Apple should not be singled out.

Courts have ruled that amounts of arsenic or lead several times the Government tolerances are not deleterious and do not constitute adulteration under the Food and Drug Act.

The Government's attitude in this matter has been very unfair and detrimental to agriculture.

The ballyhoo put out by radio, press notices, and otherwise, has not only greatly injured a valuable industry, but has also seriously misled and disturbed the consuming public with no corresponding benefit.

The Government has shamefully wasted the taxpayers' money by excessive activity in this witless crusade when funds might have been spent in securing some information of benefit to the fruitgrower as well as the consumer.

And finally, the Apple grower is entitled to respite and relief—especially since no one has been hurt from eating sprayed Apples!

LEAD ARSENATE TO BE PINK.

New Regulations in U.S.A.

With a view to preventing possible cases of poisoning, white arsenate, such as lead arsenate and calcium arsenate, which are universally used in U.S.A. as agricultural insecticides, will be given a pink coloring under an agreement, by the treatment of this chemical. This safety measure has been made after a 5-year study and intensive efforts to observe results, which indicate that the change of color should provide a satisfactory safeguard against white arsenates being mistaken for materials for household or other uses.

Lead arsenate produced for the 1938 crop season is colored pink, while the coloring of calcium arsenate will also be changed from white to pink when present stocks of insecticide are exhausted.

Summer Spot of Pears

Experiments are Being Continued.

On February 19 the executive of the Southern Victoria Fruitgrowers' Association and representatives of the Victorian Fruit Marketing Association inspected the Black Spot of Pears Experiments, being conducted by Mr. S. Fish, M.Agr.Sc., Government Biologist, on the orchard of Mr. W. A. Thiele, Doncaster.

Mr. Fish, in conducting the visitors over the experiments, explained that the work had now reached its sixth year. During the first three years conditions were very favorable for the development of Summer Spot in Pears, and evidence was obtained during this period that **consistent control of Black Spot of Pears could be obtained by the use of two pre-blossom Bordeaux sprays of 6:4:40, followed by one cover spray of Bordeaux 3:3:50 three weeks after the fruit had formed.**

The first pre-blossom spray should be applied at the late green tip stage while the second application should be made while the blossom buds are green and separated from the folded leaves.

This schedule, while very valuable from the point of view of controlling the Spot, **caused a russet** on the green Pear varieties which reduced their value by 1/- to 2/- per case on the overseas market.

With a view to modifying this schedule so as to eliminate russet experiments during the past three years have been conducted on the **Packham's Triumph** variety on Mr. Thiele's orchard.

During this period conditions have not been favorable for the development of Spot, and consequently it has not been possible to evaluate from the point of view of Spot control the experimental schedules which have reduced russet.

DEATH ADVANCES

Protect trees while dormant with Gargoyle RED

The use of Gargoyle RED gives maximum control in the DORMANT period, attacking egg and larvae forms of all pests; it also encourages early blossoming and a longer leafing period; it improves the health of the trees. Best time to spray Gargoyle RED (which has no serious rival in the horticultural world) is near to bud burst, and pick a sunny day to do it for best results.

GARGOYLE

RED Spraying Oil

Fruit Cultural Problems

Little Leaf of Apples :: Injection of Zinc Compounds :: Would Injection Cure Bunchy Top?

I enclose cutting from our Brisbane paper on **Little Leaf** troubles in the Granite Belt. It would seem that experimental work is badly needed, both here and in South Africa.

In case growers would like to try their hands, as to **boring holes and filling with zinc sulphate**—bore hole downwards—it is easier to pack full. Make a rough cone (open at top) out of the tin one cuts out of a two-ounce tobacco tin, place a small quantity of the zinc in this, insert small end in hole in tree. Pack in zinc **carefully** with a length of No. 8 wire; do not try to go too fast or hole will not be properly filled, i.e., air cavities at the bottom. Fill to ½ in. off top of hole. I pack this with a good stiff grafting wax. It is very important to seal holes bored as quickly as possible after the operation.

I have just done some old citrus trees, but made holes from 3 to 4 inches apart, not 1½ inches, as suggested in the American article, filled both with sulphate and oxide of zinc, besides making experiments with other ingredients.

I have an idea that the **Bunchy Top of Bananas** cure lies in the direction of zinc treatment in some form. The cutting from the "California Cultivator" on the importance of properly sealing cuts speaks for itself and is, I am afraid, a much neglected precaution in Australia.

Yours faithfully,
W. E. MUSPRATT.

Littlemore, Queensland.

[We acknowledge having received from Mr. Muspratt the article referred to re the importance of properly sealing cuts and another clipping re fallacies associated with spray residue.—Ed., "F.W. and M.G."]

Granite Belt Apple Trees

African Scientist's Warning.

Extract from "Courier Mail," Brisbane.

Stanthorpe.

Professor O. S. H. Reinecke, D.Sc. (Agric), of the Stellenbosch-Elsenburg University, South Africa, who is making a tour of Australia, New Zealand, and South America, visited the Stanthorpe district, in which he was particularly interested, because in many respects it resembles deciduous fruit areas in South Africa, and there are many problems which are common to the two areas. One of these is **Little Leaf.**

Professor Reinecke made a rapid inspection of the fruit industry in the Granite Belt, devoting the whole of the time he could spend here to inspection of orchards. He was mainly interested in **Apples, Pears, and stone fruit,** and expressed the opinion that the growth of young Apple trees here was as good and in many instances better than in South Africa, but he was surprised to notice **that so many of the older trees (14 to 15 years of age), particularly Granny Smiths, had stopped growing.** This, he considered, should be a matter of concern to growers, as the commercial life of the trees must be appreciably decreased by the early cessation of growth.

Professor Reinecke visited representative orchards in the district, experimental plots conducted by the Department of Agriculture, and the root stock trials being conducted by Mr. Thomas, of the C.S.I.R.

Tasmanian growers are not happy at the interpretation of export regulations. Cleopatra Apples are being unwisely rejected in the opinion of our correspondent. Others matters are also involved.

VICTORIA

Somerville Fruit Tree Nurseries and Orchards

A VISIT was paid recently by our representative, to the orchards of Messrs. John Brunning and Sons. The main orchard and nurseries are situated at Somerville, Victoria, although their new property is now being worked at Baxter, which is in close proximity to Somerville.

The nurseries at the time of our visit were looking exceptionally well, and the budding of thirteen acres of fruit tree stocks was just finished. We noted a nice block of 30,000 Apple trees and further blocks of Pears, 32,000; Cherries, 9,000, comprising Kentish, Mahaleb and Mazzard stocks for commercial use and Japanese Mazzard for the ornamental varieties. Forty-thousand Peaches were being worked with 70 different varieties. These were a particularly good sample. Fifteen thousand budded Apricots were also noted; these were confined to varieties Moorpark, Trevatt and Tilton, with Oullin's Early and Newcastle in lesser quantity. Budding of 15,000 Plums presented a problem, but ample stocks of the main varieties were carried, each having its normal share.

In the stocks of one and two year old trees for sale this Winter good growth has been made, several in the Japanese Plum section, including October Purple and Doris varieties, attaining a height of about 9 to 10 feet from the ground level. Robe de Sergeant Prunes were very good, and in contrast with their purple foliage Prunus Nigra, Pissardii, Moseri, Blireana were very noticeable. Green Gage, Grand Duke, Diamond, President and others showed good growth and healthy appearance.

Japanese Plums were in evidence, including Narrabeen, prickly Wilson and sprawling Satsuma with strong-growing Doris and Shiro with pale-leafed Santa Rosa and upright Wickson, all with ample limb growth. Apricots growing on four different stocks for soils and climates looked well.

Coming to the Peaches we expected to hear that Pullars Cling had lost favor, but ample supplies available showed confidence that this variety is still the big planting variety in the canning industry, with Golden Queen and Phillips Cling. Other varieties noticed showing good growth were Alton, Elberta, Brooks, Zerbes No. 1, Duke of York, Early Dawn, Mayflower and others. Nectarines, with several new varieties in Emmerson, Marina and John Rivers showed good hardy qualities.

Apples were particularly good, having received rains which unfortunately did not fall all over the district. One year old Rome Beauty, Granny Smith, Dunns Favorite, Cleopatra, Delicious, Stewart's Seedling showed good growth, averaging between 5 ft. and 5 ft. 6 in. Several new varieties on trial have been propagated, including Trivetts, Hastings, Celo and three strains of Red Jonathan, all showing promise, with a new Red Granny Smith, which isn't a Granny Smith, but fruit is said to be similar.

A nice block of Pears was noted, growth was stopped before the rains set in, otherwise these would probably have been larger. Medlars, Quince and Loquats of 16 varieties were in good order and growing strongly.

Orchard and Cool Store.

A visit was paid to the cool store where the Jonathan Apples were being graded to eight sizes by "Light-

STOP PRESS

OBITUARY

Mr. G. H. PARSONS, of Marion, S.A.

The South Australian Fruitgrowers' and Market Gardeners' Association Incorp., suffered a great loss with the passing of Mr. George H. Parsons, of Marion, S.A.

The late Mr. Parsons was a man of high principles, and most reliable, and coupled with his clear thinking, had commanded the highest esteem from not only members of the Association, but also all who were in any way connected with the industry.

He has done much for the industry in South Australia, and was on numerous occasions appointed to various sub-Committees of the Association to investigate various matters affecting fruitgrowing in S.A.

His work on behalf of glasshouse Tomato growers in this State will always be remembered, and he was elected chairman of the Tomato Section on two occasions, 1931-1932. His resignation from that position was greatly regretted by all members.

With the growth of the Tomato industry and the increased export to Melbourne it was found necessary to appoint a Market Representative in that capital, and Mr. Parsons, together with Messrs. G. Jennings and C. E. Hockney, put up a guarantee on behalf of the representative.

His work on behalf of the Marion Branch of the Association (report of which is published on this page) was typical of his work generally on behalf of the Association.

The Association extends its deepest sympathy to Mrs. Parsons and family.

The Marion Branch of the S.A.F.G. and M.G. Association records with sincere and very profound regrets the passing of a late member, Mr. Geo. H. Parsons.

Mr. Parsons was associated with the Marion Branch from its inception and was always a very active and loyal member.

His connection with this Association has been outstanding being appointed President on two occasions during his association with this branch, and in 1930 he was elected a committeeman of S.A. Almonds, a post which he worthily held until his untimely death. His representation of this branch on the executive was also one of untiring service.

As chairman of the Marion District Council for the past seven years, much of the present stability of local government affairs was due to the foresight and keen judgment of Mr. Parsons.

Mr. Parsons lived a life of action and service, and his death will be mourned by every section of the district, and all who have come into contact with him outside this area.

This branch tenders its deepest sympathy to Mrs. Parsons, and family, and places on record its high appreciation of the unequalled and meritorious services rendered by Mr. G. H. Parsons, both to the Association and the Marion district.

J. RAY DUNCAN, President.
A. C. GIBSON, Hon. Sec.

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ning" Power Grader and packed by a competent staff of 6 before being stacked into the cooler. The color and quality was much higher than for many years at this period of the year. Coming to the picking, which is carried out by another staff of 10 to 12, with another two carters, supplemented by a motor truck in rush periods.

They find their job fully occupied keeping the cases up to the pickers, and taking fruit into the graders.

The local record this year for one hour on Jonathans was 25 dump cases filled, other pickers tallies being 20 and 18 each in the hour, bearing ample testimony to the outstanding quality in parts of the orchard this year. These particular trees were 11 years and nothing on them under 2½ inch size, 7 to 8 and 9 bushels to a tree. Older sections more closely planted had to be thinned heavily and the fruit even then was inferior to that on the younger trees.

Goulburn Valley Notes

(By Our Correspondent.)

Pears.

Goulburn Valley Pears exported have been realising good prices on the London market.

Latest reports quote B. Bosc and Packhams from 14/- to 16/- per case.

Grapes.

The Goulburn Valley grows some of the finest table Grapes in the State. The leading variety is Waltham Cross, which always realises top prices on the Melbourne markets. Purple Cornichon, Muscats, and Red Champion are also grown, but not in any large quantities.

The dry weather has been favorable for table Grapes, and good prices have ruled throughout the season, which is now drawing to a close.

Rain is badly needed in all the northern districts, and although about 50 pts. were received during the Easter storm, this was barely enough to lay the dust. A fall of at least two inches is urgently needed to soak the parched land.

VICTORIA.

Pakenham. — At the Annual Show of the Pakenham and District Horticultural and Agricultural Society at the end of March, there was a remarkably good display of fruit.

The principal awards in the fruit sections were:—Champion case Jonathans, 2½ in., three dishes of Apples, three cases packed for export, D. C. and W. M. Black; Jonathans, 2½ in., Granny Smith, Jonathan, 2¾ in., Jonathan 2¾ in., Nine Jonathans 2½ in., Nine Jonathans 2¾ in., Nine Granny Smith, Three Dishes Pears, Mrs. Schreuder; Statesmen, Delicious champion collection, four dishes of Apples, nine Delicious, F. Kennedy; Rokewood, W. Deveney; Yates, W. Sheldon; Rome Beauty, Quinces, W. Black; Stewart's Seedlings, R. Sapwell; case of Jonathan for Export, J. J. Ahern; Granny Smith, Nell Black; Passionfruit, Buckland; Grapes, Miss B. Dunning; Lemons, Mr. W. G. Webster; District Exhibit, Army Road Club. The Gerrard Shield for Children's Apple packing was won by L. Mapleson.

Cattle and arena events attracted a large number of entries and were well contested.

Unless there are heavy dressings of phosphates, the best results cannot be obtained from cover crops.

ADVERTISING DRIED FRUITS.

Victorian Board Does Good Work.

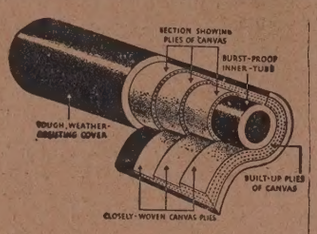
PUBLICITY plays a big part in maintaining and increasing the consumption of dried fruits in the Commonwealth. In this matter the Victorian Dried Fruits Board is constantly active. It has formulated a policy and mapped a programme designed to obtain maximum results without incurring heavy expenditure on spectacular advertising campaigns. The aim is to reach the greatest possible number of consumers by the shortest route and in the most effective way.

One method that has given good results is a travelling talkie-show, which is exhibited in schools throughout the country. The same vehicle carries complete equipment for window displays in the towns visited, and with the co-operation of retailers, a lively interest in dried fruits is aroused in each centre.

Window displays are being maintained all the time, suburbs being taken in rotation. By this means a large number of housewives are kept reminded of the dietetic value of dried fruits.

At the agricultural shows in all the capital cities there is always a striking display of dried fruits. Railways and trams are utilised for advertising purposes, and display cards and large colored posters play a part in keeping the people reminded that dried fruits represent excellent value for the money paid, and that they constitute an indispensable part of a properly balanced diet.

The result of this continuous propaganda has been very gratifying to the Board, and the growers have good reason to be satisfied that the sum allotted each year for publicity has been expended to the best possible advantage.—W.B.H.



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Tasmanian News & Notes

Export Season in Full Swing — Interpretation of Regulations Causes Unrest Amongst Growers — Cleopatra Apples Unwisely Rejected — Growers Should Have Right to Appeal Against Decisions of Officials — Increase in Demand for Cider — Pie Apple Factory Ready to Operate on Sturmers — Qualitative Restrictions Advocated to Regulate Interstate Marketing.

(By Our Correspondent.)

THE APPLE AND PEAR export is still in full swing. Several steamers were in loading during Easter week, and the congestion on the wharves became very acute. The Shire liner, "Norfolk," is expected in at Port Huon Monday April 18, and the "Cordillera" is there during Easter. The "Port Hobart" is also expected about the same time. The weather has been very good for harvesting the fruit, the past fortnight, and every variety is ripening early, even Sturmers are showing signs of wanting to be picked.

On the average, the fruit has been larger than usual.

The various factories and evaporators have more than they can possibly cope with, and the fruit absolutely going to waste is appalling. Probably 25 per cent. of the total amount grown will be tipped, for although the interstate market has improved a little for the best quality, it won't require good grade or D grade for a long time yet.

The Department of Commerce (or is it Customs) still stops inspection for an hour for dinner and tea, which is very inconvenient for the lorrymen especially, and increases the cost of local transport by wasting their time.

The Cider factory, "Mercury" brand, commences crushing for this season next week, and the fruit is in an excellent condition for that purpose, having a good proportion of natural fruit sugar, so that quality of the product will be fully maintained.

Seaside orchard property, Birches Bay, Tasmania, showing eight-year-old Democrats, Granny Smiths and Cox's Orange in foreground and D'Entrecasteaux Channel and Bruni Island in background.

I understand that the demand has increased in a satisfactory manner.

The pie Apple factory started by the Port Cygnet growers on a co-operative basis is expected to begin operations as soon as the Sturmers are ready, this variety being considered the best obtainable for this purpose. The evaporators are only giving 9d. per 50 lbs., which hardly pays the grower for handling them.

The inspection of the Cleo. variety is continuing to cause the growers serious loss as any consignment having any slightly mis-shapen fruit is liable to be ruthlessly turned down, although the regulation says "Fruit shall be fairly well formed."

I have seen beautiful lines turned down for this reason alone. I understand the Primary Producers' Organisation is taking the matter up, and will take the necessary steps to bring the matter before the Acting Minister for Commerce.

This once popular and profitable variety has now become non-payable, owing to the over-interpretation of the regulation.

The Chairman of the State Fruit Board and Mr. C. O. Smith (Tasmania's representatives on the Executive of the Apple and Pear Council) have already protested to the Collector of Customs, but so far without result, so nothing remains but to approach the Minister for Commerce with a view to getting a more reasonable interpretation of the regulation in this particular. Many growers are contemplating reworking the Cleos. to such varieties as Delicious, which will tend to still further glut the interstate markets.

Every year the Department springs something new on the growers. One time it is pressure bruise, then the iodine test for maturity, and when that proved untrustworthy, they applied the sugar test, then "slack pack" was the chief cause of detention. This year russetting and misshapen fruit are the chief complaints.

Now within reason, all this is quite all right, but even a good thing can be carried too far.

There should be a growers' referee on the wharf to O.K. all detentions, then the grower would know he was getting a fair deal.

At present the animosity against the Department is ever-increasing, chiefly because there is no appeal, which rightly or wrongly makes the growers feel they are not fairly treated, and consequently they become resentful and oppose any suggestion of organisation which might lead to still further official control.

This attitude, I think, will continue until their elected representatives have a say in how the regulations are to be interpreted, as everything depends on the interpretation. Given an easy means of appeal, I think the opposition to Government control would lessen and eventually die out. Those who sit on safety valves usually get an explosion sooner or later. This industry can't be run on ideals.

Readers may think I have made too much of this matter of the interpretation of the regulations, but there is a principle involved, namely, are the growers to manage their own industry or are the Government officials to take it out of their hands and do as they think fit? If a vote were taken to-day as to which of our many disabilities constituted the biggest menace to the industry, I think "Government Officials" would win easily.

It was this fear that defeated the recent Marketing Referendum, and the previous scheme, usually referred to as the Paterson scheme.

It also defeated the well-meant "Commodity Board" proposals of our State Government, and in all probability will defeat the next proposal for anything resembling Government control. This is regrettable, but will continue till the primary producers' representatives have a little more control of their various industries and the Government officials a little less.

Costs are being forced upwards, ever upwards, by each successive so-called reform, and the prices are, if anything, lower. A good even pack can be maintained without going to extremes.

The tourist luxury liner, "Frankonia" is expected at Hobart shortly, and many trips have been arranged, and all the car accommodation requisitioned for the occasion.

Many suggestions for the control of the interstate markets are in circulation at the present time, but as far as I can see "Qualitative restrictions," which will apply equally to the producers in all States is the only workable and just method of regulating supplies.

This method is probably too simple to commend itself to the originators of the various schemes, as it would not create billets.

Cleopatra Apples in Channel Orchard, Southern Tasmania. This patch regularly produces 1,000 bushels per acre.

TASMANIA

High Quality Export Packs :: Pest and Disease Control :: Early Planting of Strawberries from Healthy Runners :: Plant Diseases Check Berry Industry.

Hobart, 9/4/38.

THE Minister for Agriculture (Hon. R. Cosgrove, M.H.A.), is in receipt of the following report from the Chief Horticultural Officer relative to the condition of orchards throughout the State during March.

Weather and Crops.

Throughout the main fruit growing areas, although temperatures were about normal, rainfall was excessively heavy and proved a contrast to the same period last year. Strong winds caused considerable loss in some Northern orchards, though rainfall was lighter. Fruit development following the continued rains has resulted in many varieties becoming too large for export, and much loss has been experienced in this way. The following rainfall recordings received from the Meteorological Bureau indicate the position in fruit growing areas—Hobart, 466 points, as compared with the average of 173; Franklin, 353 points, compared with 250; Launceston 99, compared with 170.

Pests and Diseases.

In spite of the humid conditions experienced, fruit has remained remarkably free from black spot and, contrary to expectations, Red Spider is very prevalent in most districts. The respective explanations would appear to be the comparatively dry Spring which enabled growers to apply their main Black Spot spray under ideal conditions, and the tendency to omit the main sprays for Red Spider control owing to economic considerations. On areas where Canary Fly did not receive special attention, the infestations have been severe, and fruit has required dipping and cleansing prior to packing for export. A few growers report poor results from nicotine spray, but such has undoubtedly been due either to application at the wrong period or failure to spray the undersides of the leaves. Where the Canary Fly is in evidence at the present time growers would be advised to concentrate on Spring (October-November) nicotine applications.

Packing and Export.

Generally speaking, fruit is of excellent appearance this year, and the color development on red or striped varieties has rarely been better. As already mentioned, much over-size fruit has been produced, and since the larger sizes are more susceptible to Bitter Pit, Internal Breakdown, and other storage troubles, particular care must be taken in selection for export.

All fruit from off-year or light cropping trees should be omitted from overseas export packs, however attractive and sound they may appear.

Cleopatras have suffered much from hollow core and pit this season, and every effort should be made to ensure that fruit with a tendency to such is

COLIBAN WATER SHORTAGE.

Victorian Growers to Seek Compensation for Losses.

The Bendigo Pasture Growers' Association is seeking compensation from the Government for losses sustained through lack of water from the Coliban Scheme. The Strathfieldsaye Shire Council is supporting the movement. This Association points out that pasture growers and fruitgrowers were being ruined for lack of usual water supplies. The Government is being urged to immediately appoint a Board to estimate losses and assess just compensation.

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discarded or tested thoroughly before shipment.

A good idea of the keeping qualities will be obtained if small trial pickings are made in advance and examined carefully at the end of a week or ten days.

The average pack has shown much improvement on last year, but contraventions for slack packing are still occurring, and some irregularity in certain of the Canadian Standard type cases has increased the difficulties of those less used to the "Crown" pack. Where any doubt is experienced, packers are advised to get in touch with one of the District Instructors or head office.

Berry Fruits.

Humid weather conditions have led to the rapid spread and development of fungus diseases in all berry fruits, and it is possible that **more general Spring spraying with Bordeaux mixture** will be necessary next year than is usually done.

Anthracnose on Raspberry leaves and canes and Mycosphaerella Leaf Spot on Strawberries is spreading rapidly, whilst Black Currant leaf Blight and Leaf Spot, two additional fungus troubles, have resulted in early leaf fall this Autumn.

Many growers have taken advantage of the rains to make **early plantings of Strawberries**, and provided the Autumn is not too dry and the soil in good heart, fair crops should be harvested next Christmas.

For those

Commencing Strawberry Growing,

the establishment of runner beds of selected plants is strongly advised rather than attempting any immediate large plantings with stock of uncertain or diseased strains. Advice in respect to such may be obtained by writing or calling at the Department of Agriculture.

With regard to the establishment of Strawberry areas, unless under exceptionally favorable conditions, Winter planting (that is, from Mid-May to the end of August) is not recommended; such plants generally mark time and become injured or killed through frost lifting or rots.

Once again the necessity is stressed for only selecting runners for planting purposes from strong, healthy plants free from any yellow edged, deformed, crinkled or discolored centre leaves.

Select runners from only those plants above average in size and vigor with uniform, even, well-colored leaves having broad, well-shaped leaflets.

THE AMERICAN WAY!

Surplus Peaches for Persons on Relief.

A recent issue of "The Western Canner and Packer" reports that a sum of 500,000 dollars has been appropriated by the Government for the purchase of 1,500 tons of 1936 dried Peaches and 1,500 tons of dried Apricots from California. The Federal Surplus Commodities Corporation will distribute the dried fruit to persons on relief.

But that is only part of the story. There was a string attached to this purchase by the Government. For each ton of Peaches that the Government thus removes from the market, the packers must buy a ton and a half of new season's Peaches from the growers. In the case of Apricots, two tons must be purchased by packers.

All the beautiful sentiments in the world weigh less than a single lovely action.—James Russell Lowell.

THE CITRUS INDUSTRY

The Coming Citrus Crops in N.S.W.

Review of Conditions as at April 1, 1938

The generally favorable outlook throughout coastal groves during early February was not maintained, owing to the hot, dry weather which prevailed in March. The adverse conditions have had the effect of retarding development of much main crop fruit and in some instances appear to be hastening maturity. Rain would be most beneficial at this stage.

On the Irrigation Areas satisfactory progress continued and at Curlwaa and on adjoining settlements the prospects of Navels and Valencias are better than anticipated earlier.

There are still fair quantities of intermediate Valencias in a few areas, but in most localities these Oranges have been cleared.

In preparing the survey which follows, recourse was had to reports furnished, in response to questionnaires issued from this Bureau, by Field Officers of the Fruit Branch of the Department of Agriculture and growers acting as honorary correspondents. The co-operation thus given is appreciated.

A. A. WATSON.
Director of Marketing.
Sydney, April 8, 1938.

Maitland.

Very hot weather was responsible for Sun Scald on citrus fruits, particularly **Emperor Mandarins**, and some splitting of Navels occurred where rain followed the hot conditions.

The dry spell is stated to have checked development of all citrus in the Bulga locality. **Navels** are coloring in this area, while early maturity of this fruit is denoted around Moorland, where harvesting is expected to commence about the **first week in May.** Excellent crops of **Valencias** are in sight in the latter districts; some of last season's fruit is still being marketed from Bulga. Moderate to heavy yields of **Lemons** are anticipated; the fruit is coloring and some picking is proceeding.

Gosford.

Summer conditions continued during March, but without the usual storms. The **Navel** crop is reported to be about five per cent. below earlier estimates, and dry weather is hastening the maturity. The fruit at Lisarow is said to be rather small, and rain is needed to assist development, but on young trees in the Terrigal locality good progress is being made and some harvesting is expected to take place during May; no decline in prospective production is anticipated in this area. Around Holgate moderate crops of good quality are in sight, but sizing is slow. There is a light intermediate setting in the Wyoming Road locality, while "mains" are holding well and are of fair size.

Valencias appear to be heavier than indicated previously; growth of these Oranges, however, is mostly disappointing, although some on young trees and in groves where cultivation has been efficient are viewed favorably. A few "intermediates" are still being marketed, but the bulk of this fruit is cleared.

The **Joppa** crop varies, in some orchards good crops of satisfactory sizes and quality are apparent; in others dry weather appears to have retarded the growth of fruit.

Some **Imperial Mandarins** are commencing to color. The crop is not as heavy as previously reported, and development of the fruit is unsatisfactory.

Taken collectively, the **Lemon crop** is light, although good settings are to be seen in some groves. A little marketing of "mains" is being carried out.

Wyong.

Where properties were properly cultivated the showers received were sufficient to maintain moisture needs. At Dooralong both **Navel and Valencia** trees are healthy and the fruit is developing well. **Generally, Navels are more heavily cropped than Valancias.** Reports indicate that original estimates of prospective production are being maintained, and on present appearances good quality Oranges should mature.

In some parts of the district the Summer crop of **Lemons** has been marketed; in others harvesting is still proceeding. It is stated that satisfactory prices have been obtained for those disposed of. The main crop is making good progress.

Hawkesbury River.

The very hot dry weather of March was detrimental to citrus groves, and a good deal of sun scald occurred. **Navels** and other Oranges are progressing satisfactorily; some slight traces of color are showing on **Silettas.** Early varieties of **Mandarins, e.g., Oonshi and Imperial,** should soon be ready for harvesting. Practically all intermediate crop **Lemons** have been marketed, and some of the "mains" have also been cleared.

Kurrajong.

Unusually warm weather for this time of the year prevailed during the month. A severe hailstorm resulted in considerable damage to **Mandarins,** particularly on the heights, where in some instances the losses sustained are said to be as high as 60 per cent. Although the setting of **Navels** is only patchy, the fruit is progressing well.

The majority of second crop **Valencias is cleared.** There is a heavy showing of main fruit and this is cleaner than usual. **Common Oranges** generally are rather light, but good average yields of main **Sevilles** are in sight. **Mandarins** promised well, but have been greatly reduced by hail and the ravages of "green bug." **Lemons** have cropped freely and are looking well, while Grapefruit are satisfactory and beginning to color in some localities.

Emu Plains.

Mostly fine, dry weather prevailed and rain would be welcomed by orchardists. A storm during the month resulted in a small amount of hail marking. Navel crops generally are light to medium; fruit is sizing well and appears to be of good quality. A light to medium setting of **Valencias** is developing satisfactorily. The limited number of **Common Orange** trees in this district are carrying moderate quantities of fruit which is progressing favorably. Crops of **Imperial Mandarins** are very patchy; some are heavy while others are practically failures; in the aggregate prospective yields may be classed as medium to light. A good showing of main **Lemons** is apparent, but Grapefruit are reported to be moderate.

Windsor.

Apart from a few light showers, generally fine weather was experienced, and a good fall of rain is badly needed to enable cultivation to be carried out, also to maintain development of the various citrus fruits. In some situations leaves are commencing to curl on the trees.

Navels are showing traces of color, and the quality of the fruit generally appears to be good. **Valencias** are holding satisfactorily, and, with additional moisture in the very near future, the fruit should make headway and yield well. It is stated that fair quantities of intermediates are yet to be harvested. **Joppas** in the Riverstone locality promise to be very large and clean. A good crop of **Mandarins** is in sight, while prospects for Lemons appear bright, as good yields of both main and intermediate are anticipated. **Grapefruit** are expected to attain larger size than usual.

Hills District.

Generally hot, dry weather prevailed throughout this area; a cold change was experienced for a few days early in the month, while during the latter part, rainstorms, yielding up to 2½ in. in some parts, afforded a certain amount of relief, but mostly further falls are needed to assist the sizing of fruit.

There is a good crop of **Navels** showing in most instances, especially on young and well cared for trees, although in the Dural locality the setting is rather light. While the fruit was growing satisfactorily until recently, the dry spell has tended to retard development. Heavy shedding is apparent on neglected trees around Kellyville.

The majority of the second crop **Valencias** has been harvested; much of this fruit was affected by blue mould from mid-February onwards, and considerable losses were sustained. The "mains" mostly are coming on nicely, and, although only expected to be fair in some centres, **prospects on the whole are for heavy production.** A serious check to size has occurred owing to the protracted dry weather and much small fruit is likely unless conditions improve very shortly.

Many **White Sillettas** are filling well and showing signs of color, heavy crops, however, receved a setback due to lack of moisture. Numbers of old and neglected trees in the Galston locality are very unsatisfactory. Joppas are shedding badly at Kellyville.

Sevilles are mostly light and of poor quality. Fair to good prospects are indicated for **Mandarins** which mostly are coming on well, although rain is needed now to assure continued progress. Development is not wholly satisfactory in some centres, more noticeably at Kellyville, while much hail marking is apparent. Maturity is expected to be a little earlier than usual.

The generally heavy main crop of **Lemons** was making rapid progress until retarded by adverse conditions. Although immature, the fruit is quite juicy and growers are marketing some supplies in order to take advantage of the favorable prices offering.

Grapefruit are satisfactory, and some in the Castle Hill sector are showing signs of color.

Parramatta, Etc.

Generally good crops of **Valencias** are in sight, but development is being retarded by the lack of rain. It is reported that about 2,000 cases of intermediate fruit remain on the trees in the Orangeville locality. **Common Oranges** and **Mandarins** also are well cropped, but like Valencias the dry conditions are affecting the sizing. The Summer **Lemon** crop has been harvested and a start made with the main; rain would also benefit this fruit.

The very dry weather experienced was having an adverse effect on aged citrus trees.

Murrumbidgee Irrigation Area.

Navels are sizing well, and a few **Thompsons** are commencing to show color at **Griffith; yield prospects are variable and range from light to medium with a few good.** In the **Yenda** section a moderate crop is indicated.

Around **Leeton** development is good, and it would appear that there will be more medium sizes than usual, while with a continuance of warm, dry weather maturity should be earlier than last year. Extensive fumigation has been carried out and generally clean fruit should be harvested.

Valencias are patchy at Yenda, the setting being poor on portions of trees affected by hail during the Spring of 1937. A few heavy crops are to be seen at Griffith, but mainly medium yields are likely. Satisfactory development of the good crops at Leeton is apparent; practically all intermediate fruit has been cleared.

Only moderate crops of **Lemons** are in sight at Yenda, but elsewhere prospects are better. Some intermediate **Marsh's Grapefruit** is being carried in groves at Leeton; the main setting is expected to mature earlier than during last season.

Curlwaa, Etc.

Prospects of **Navels** and **Valencias** are better than previously reported; good production is expected from both varieties. No intermediate crop is showing and only a limited quan-

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tity of last year's settings of Valencias remains to be harvested.

Satisfactory yields of **Lemons** are anticipated. Present indications are that the fair crops of **Grapefruit** in sight should be of good quality.

Narromine.

Very dry and warm weather for the season of the year was experienced throughout March. **Navel** trees have been well watered and the fruit carried has developed well. The crop is said to look quite up to last season's both as regards quantity and quality.

The **Valencia** crop is definitely lighter than the preceding one, while **Common Oranges** are below average. **Lemons** are somewhat light, but the fruit is sizing evenly. Normal development of Grapefruit is apparent.

STORING ORANGES.

Layers of Newspaper Recommended.

Experiments in the home storage of Oranges have revealed that there is a cheap and easy method of keeping citrus fruit for a long period. Oranges packed in boxes in layers, with several sheets of newspapers between each layer have been found to keep much better than when stored in any other manner. The variety experimented with was the Washington Navel, but there appears to be no reason why the method should not do equally well for other citrus fruits.

BUDDING CITRUS TREES.

Several Operations in Reworking Unprofitable Varieties.

NOW IS THE TIME for budding citrus trees. On this subject Messrs. C. G. Savage and R. J. Benton, of the N.S.W. Department of Agriculture, advise as follows:—

Citrus buds should be cut from the scions with as little wood as possible, or with no wood at all. Examine the buds about three weeks after insertion, when any apparent "misses" can be replaced immediately. The buds should not be forced into growth, by cutting back the shoots budded, until next Spring, when all danger of frosts has passed.

Undesirable trees of Oranges, Mandarins, Lemons and Grapefruit can be sucessfully budded with any citrus variety, as far as is known, in all citrus districts.

It may be that an exception to this rule will eventually be found to exist in the Hills district, where several instances have been noted of the failure of Eureka Lemon to grow satisfactorily when budded on White Siletta Orange.

CITRUS INTO CANADA.

California Flooding the Market.

A reader, writing from Vancouver on February 15, states that owing to the duty on citrus fruits from California being lifted, the local market is flooded with Californian fruit and Oranges of large size were selling at 2/2 for 3 doz., whilst Grapefruit could be bought 6 for 9d.

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Investigation on the Storage—Ripening and Respiration of Pears

By G. B. Tindale, B.Agr.Sc., S. A. Trout, M.Sc., Ph.D. and F. E. Huelin, B.Sc., Ph.D., in the "Victorian Journal of Agriculture."

(Continued from April issue.)

The earlier portions of this report, which were summarised in the March and April issues of this Journal, dealt with the color, pressure and chemical composition of Pears at picking; length of storage life and physiological disorders of cool storage; the effect of temperature, maturity and size on storage life; physical and chemical changes during storage; changes in respiration; and the relation between temperature, respiration and length of storage life.

Ripening.

ALTHOUGH A PEAR may soften and color in store, it cannot be assumed to have ripened normally unless it has developed full flavor, is very soft, and running with juice. The ability of a Pear to ripen depends on the length of time it has been in store and the storage temperature.

It has been found that the early maturing varieties, like the **W.B.C.**, which is usually picked in the Summer months, require much higher temperatures for ripening, than the later maturing varieties, like Winter Nelis, which is picked in the Autumn.

Minimum ripening temperatures, giving fully satisfactory results, have been determined for several varieties of Pears, and are as follow:

Variety.	Satisfactory Minimum Ripening Temperatures.
W.B.C.	60 deg. F.
Howell	55 deg. F.
Bosc	55 deg. F.
Comice	45 deg. F.
Anjou	45 deg. F.
Packham	45deg. F.
Winter Cole	40 deg. F.
Josephine	37 deg. F.
Winter Nelis	37 deg. F.

The W.B.C. will not ripen below a temperature of 55 deg. F., developing core breakdown and scald without production of adequate juice and flavor. Ripening may occur at 55 deg. F., however, but only in W.B.C. Pears which have been in cool store at 32 deg. F. for half the length of their storage life, i.e., six weeks, but the flavour of this fruit is not equal to that ripened at 65 deg. F. Full color, flavor and juice are best developed at 65 deg. to 70 deg. F. Although these qualities have been produced at 60 deg. and 75 deg. F., in some years flavor has been lacking at the former temperature, and color at the higher.

The **Bosc** has ripened at 45 deg. F. after a short storage period, but later, a higher temperature is required for the development of the best qualities on ripening. The **Packham** and **Josephine** frequently ripen without changing color, and in some years, a deeper color has been developed at 50 deg. F. than at 65 deg. F. The **Josephine** and **Winter Nelis** Pears ripen satisfactorily at 37 deg. F., although better qualities are produced at higher temperatures. **The optimum ripening temperature for each variety has not been accurately determined, but in general, it is approximately the mean of the minimum ripening temperature and 65 deg. F.**

The times for the various varieties to ripen and become overripe, stored at different temperatures immediately after picking, are recorded in Table XI. The time at which the fruit is ripe has been taken as the first time when the fruit is running with juice and full of flavor. Overripeness is the stage at which the fruit first develops a fermented or overripe flavour.

The times to ripen in Table XI. refers to fruits placed at the various temperatures immediately after picking. The time to ripen at 65 deg. F. for fruit stored at different temperatures for various periods of time has also been determined. Samples of W.B.C. Pears were removed to 65 deg. F. after various periods at 30 deg., 32 deg., 34 deg., and 36 deg. F., and the time to ripen was recorded. The results were as follow:—

Temperature.	Storage Period. (Weeks.)	Days to Ripen at 65° F.
36° F.	0	8
	2	6
	4	5
	6	4
34° F.	0	8
	2	7
	4	6
	6	5
	8	5
32° F.	0	8
	2	7
	4	7
	6	6
	8	6
	10	5
	12	5
30° F.	0	8
	2	7
	4	7
	6	7
	8	6
	10	6
	12	5
	14	5

The time to ripen therefore depends on the treatment which the fruit has received prior to ripening.

Atmospheres 1 to 3 can be maintained simply by controlling the ventilation, as the fruit in respiration produces carbon dioxide and absorbs oxygen in approximately equal amounts. To maintain atmospheres 4 to 6, it is necessary to pass nitrogen into the cabinets occasionally in addition to ventilating.

The varieties used were **W.B.C., Howell, Bosc, and Packham.** The W.B.C. was obtained from Shepparton and the other varieties from Doncaster. With each variety, storage in atmosphere No. 1 increased the storage life by about 50 per cent., and the time to ripen at 65 deg. F. was increased by two to three days. Similar results were obtained in atmospheres 2 to 4, except that Bosc and Packham Pears stored in the presence of 10 per cent. of carbon dioxide, occasionally developed "brown heart" after ripening. Pears stored in atmospheres 5 and 6, which contain only 5 per cent. of oxygen, soon ripened to a poorer quality than those stored in the other atmospheres. The best results were obtained by storage in atmospheres 1 or 4, thus avoiding "brown heart" and other injury. The storage life for each variety is as follows:—

Variety.	Storage Life in Months, at 32 deg. F., in— Air. Months.	Gas Storage (5 per cent. CO_2, 16 per cent. O_2). Months.
W.B.C.	3½	6
Howell	4	6
Bosc	4	6
Packham	5½	8

Injurious Effects of Carbon Dioxide.

Apart from the intentional use of gas storage, the respiration from a large mass of fruit in a ship's hold may bring about the accumulation of carbon dioxide in the absence of adequate ventilation. Kidd and West (7) found "brown heart," such as sometimes occurred in Australian Apple shipments, could be produced when the concentration of carbon dioxide was allowed to rise above 10 per cent., and it is particularly desirable to know what concentration is injurious in the storage and transport of Pears.

In 1937, seven varieties of Pears were stored at 34 deg. F. in atmospheres containing 5, 10, 15, and 25 per cent. of carbon dioxide, maintained entirely by reduced ventilation. After a period of eight weeks (sufficient for overseas transport), the Pears were ripened at 65 deg. F. and examined with the following result:—

Variety.	Number in Sample.	Pears with 'Brown Heart' in. 5 % CO_2	10 % CO_2	15 % CO_2	25 % CO_2
W.B.C.	24	0	0	0	0
Howell	18	0	0	0	2
Bosc	20	0	0	5	16
Packham	15	0	0	3	3
Josephine	15	0	0	5	8
Winter Cole	18	0	1	3	4
Winter Nelis	13	0	0	0	0

The term "brown heart" is used provisionally for any internal discoloration caused by excessive carbon dioxide.

The injury in **Bosc, Packham, and Josephine** Pears was indicated before ripening by light brown patches in the core. After ripening, the core, and sometimes the surrounding region, became discolored with extensive cavities. In the Bosc variety, the lesions were practically identical with core breakdown resulting from overstorage. "Brown heart" in the **Winter Cole** Pears, developed on ripening, and consisted of dark areas in the flesh without cavities. The Howell Pears developed similar lesions, but only in an excessive concentration of carbon dioxide. Pears free from "brown heart" ripened satisfactorily after exposure to concentrations of carbon dioxide up to 15 per cent., but a fermented taste usually resulted when the carbon dioxide was allowed to accumulate to 25 per cent.

Generally, injury from "brown heart" first made its appearance when the concentration of carbon dioxide reached 10 per cent. The results suggest that the carbon dioxide should not rise above 5 per cent., as this concentration has given about the maximum increase in storage life.

Table XI.—Days to Ripen and Become Overripe at Various Temperatures.

Variety.	75° F. R. Days.	75° F. OR. Days.	70° F. R. Days.	70° F. OR. Days.	65° F. R. Days.	65° F. OR. Days.	60° F. R. Days.	60° F. OR. Days.	55° F. R. Days.	55° F. OR. Days.	45° F. R. Days.	45° F. OR. Days.	37° F. R. Days.	37° F. OR. Days.
W.B.C.	4	6	5	8	6	9	8	11	10	14	WNR.	WNR.	WNR.	WNR.
Howell	—	—	—	—	8	13	—	—	12	19	21	31	WNR.	WNR.
Bosc	—	—	—	—	8	13	—	—	12	19	21	31	WNR.	WNR.
Packham	—	—	—	—	8	13	—	—	12	19	21	31	WNR.	WNR.
Winter Cole	—	—	—	—	8	13	—	—	12	19	21	31	WNR.	WNR.
Comice	—	—	—	—	8	13	—	—	12	19	21	31	WNR.	WNR.
Anjou	—	—	—	—	8	13	—	—	12	19	21	31	WNR.	WNR.
Keiffer	—	—	—	—	8	13	—	—	12	19	21	31	WNR.	WNR.
Madame Cole	—	—	—	—	8	13	—	—	12	19	21	31	WNR.	WNR.
Josephine	—	—	—	—	11	16	—	—	16	24	28	38	120	141
Winter Nelis	—	—	—	—	14	22	—	—	25	33	40	50	140	168

R—Ripe. OR.—Overripe. WNR—Will not ripen.

"Gas" Storage of Pears.

It has been shown that a longer storage life can be obtained at 32 deg. F. than at higher temperatures. With the object of prolonging the life still further, the "gas" storage method of Kidd and West (6) was tried in 1937. The fruit was stored at 32 deg. F. in gastight cabinets in which various artificial atmospheres were maintained. The atmospheres were mixtures of carbon dioxide, oxygen, and nitrogen, in various proportions, the composition of each mixture being as follows:—

Atmosphere.	Carbon Dioxide. %	Oxygen. %
Air	0	21
1	5	16
2	7.5	13.5
3	10	11
4	5	10
5	5	5
6	10	5

Conditioning of Pears.

IN AUSTRALIA, and other countries, it is the usual practice to place Bananas, which are harvested green like Pears, in specially constructed rooms having precise temperature control for conditioning or ripening before sale. A considerable amount of attention has been given in Australia and England to the possibility of improving the quality of Pears by conditioning them prior to marketing. The properly ripened Pear is sweet, of excellent flavor and running with juice, but it is only on

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STORAGE, RIPENING AND RESPIRATION OF PEARS—(Continued).

rare occasions that the public is able to purchase such a high-class article. It has been shown that the W.B.C. Pear will ripen satisfactorily only within a temperature range of 60 deg. to 70 deg. F., and the Bosc Pears at slightly lower temperatures. The longer keeping varieties will ripen satisfactorily at 45 deg. F., but take at least three weeks to ripen at this temperature, compared with one week at 65 deg. F.

Conditioning of Pears is perhaps not essential in Australia, except during the Winter months in Victoria and Tasmania, where the average temperature at this time of the year rarely exceeds 50 deg. F. But in England the prevailing warehouse temperature at the time of the arrival of W.B.C. Pears is approximately 45 deg. F., and as the W.B.C. Pear will not ripen at this temperature, conditioning is essential if the public is to receive fully ripe and juicy fruit. It is not practicable to leave the Pear in a ripening room until it is fully ripe and juicy, because its marketable life would then be too short. Investigations have therefore been conducted in Melbourne, to determine the treatment necessary to initiate ripening and enable it to proceed subsequently at 45 deg. F.

It has been found that after a period of conditioning of two or three days at 65 deg. F., the W.B.C. Pear will ripen subsequently at 45 deg. F. with the development of good flavor and juice, but the quality obtained at 45 deg. F. after conditioning is slightly inferior to that obtained by keeping the fruit continuously at 65 deg. F. A conditioning temperature of 65 deg. F. gave better results than either higher or lower temperatures. Ripening was much more rapid at 75 deg. F. than at 65 deg. F., and in consequence the fruit did not hold its condition as well when subsequently held at 45 deg. F. Conditioning at temperatures lower than 60 deg. F. resulted in abnormal ripening.

Although a conditioning period longer than two to three days gave a fruit of better quality, the skin of such fruit was extremely sensitive to injury and developed brown marks, even when handled with the greatest care. As hard, immature fruit can be handled without risk of skin bruising, conditioning should be carried out, if possible, just prior to the sale of the fruit to the consumer. It has been shown, however, that W.B.C. Pears held for one week at 45 deg. F. before conditioning did not develop as good quality as those conditioned immediately after removal from store, and if held for a week at 50 deg. F. ripened abnormally subsequently at 65 deg. F.

It is essential, therefore, that W.B.C. Pears should be conditioned as soon as possible after arrival in England, but this would only be practicable if the Pears were sold to the London public only.

W.B.C. Pears were given various conditioning treatments after six and eight weeks respectively at 32 deg. F., and the time to ripen and to develop core breakdown subsequently at 45 deg. F. are recorded in Table XIV.

Although conditioning in England has been shown to be essential for W.B.C. Pears, which are not likely to be extensively exported in the near future, it would improve the quality of the Bosc variety and hasten the ripening of other varieties arriving before the middle of May, for the English warehouse temperatures are approximately as follow:—

Feb.	March.	April.	May.	June.
45° F.	46°F.	52° F.	58° F.	63° F.

Table XIV.—The Effect of Conditioning on the Time for W.B.C. Pears to Ripen and Develop 10 Per cent. Core Breakdown.

Removed from 32 deg. F. After Six Weeks.

Treatment.	Days to Ripen.	Time to develop 10 per cent. Core Breakdown at 45 deg. F.
65 deg. F. throughout	6	10 days
2 days at 65 deg. F. then to 45 deg. F.	12	16 „
3	10	14 „
4	6	9 „
45 deg. F. throughout	FTR.	50 per cent. scald after 21 days.

Removed from 32 deg. F. After Eight Weeks.

Treatment.	Days to Ripen.	Time to develop 10 per cent. Core Breakdown at 45 deg. F.
65 deg. F. throughout	5	8 days
2 days at 65 deg. F., then to 45 deg. F.	11	15 „
3	9	13 „
4	5	8 „
45 deg. F. throughout	FTR.	50 per cent. scald after 18 days.

FTR.—Failed to ripen.

(To be continued.)

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Scald in Jonathan Apples

DEFINITELY A LOW TEMPERATURE DISORDER — MOST AT 32 DEG., SLIGHT AT 34 DEG., NONE AT 36 DEG.

Pre-Storage Factors Include Maturity at Picking Time and Temperature Prior to Storage.

Interesting Information from Victorian Department of Agriculture.

IN Victoria the Jonathan Apple is cool stored in greater quantity than any other variety. Unfortunately, it is subject to various disorders in cool storage, one of which is "Scald." This common name for the disorder is a very good one for the disorder, in appearance, is somewhat similar to sunscald. At first only the skin is affected, well-defined areas of skin turning a deep brown color. Unlike sunscald, however, the margins of the affected area are generally irregular in outline.

The affected area when bad extends more or less as a band around the Apple, the stalk and calyx ends being unaffected. When first affected, the tissue beneath the scalded area is quite sound, but with further storage the tissue will gradually break down, starting first adjacent to the skin and gradually extending inwards. Apples badly affected with Scald frequently suffer from complete breakdown also.

Considerable research has been conducted in Victoria during recent years with regard to this disorder, and a certain amount of knowlege has been accumulated.

In some seasons Scald may be bad, while in other years under apparently the same storage conditions, Scald may not appear. Hence while growers are apt to consider the disorder as being due to some unfavorable storage conditions, the cool storage proprietor often considers that the growing or seasonal conditions prior to storage render the Apples liable to Scald.

Actually both are right insofar that it has been found that Scald only appears when a certain combination of storage factors and pre-storage factors operate together. Referring first to the storage factors.

It has been found that Scald is definitely a low temperature disorder. Scald may be very bad at 32 deg. F., provided certain pre-storage factors are "favorable."

Under experimental conditions it has been possible to produce over 80 per cent. of Scald at 32 deg. F. when the pre-storage factors were favorable. At 34 deg. F., however, the percentage of Scald in an exactly similar line of Apples was reduced to 20 per cent., while when the storage temperature was raised to 36 deg. F. and above, Scald did not develop.

Hence, Scald is definitely a low temperature disorder occurring mostly at 32 deg., slightly at 34 deg., and not occurring above 36 deg.

However, it is not recommended that Jonathans be stored at 36 deg. continuously, because, at this temperature, for long storage they will not keep nearly so "fresh" as at lower temperatures They will lose their flavor and become mealy earlier at the higher temperature and will also develop Jonathan Spot earlier.

It has been found that Scald develops relatively quickly in cool store, and practically all "Scald-liable" Apples will have developed Scald within two to three months of storage.

If not scalded by them, the Apples will remain free from Scald, even though further stored at 32 deg. F. It is suspected that the "damage is done" very shortly after the Apples are stored, and it is hence recommended that Jonathans be stored at 36 deg. F. until the end of April, then at 34 deg., until the end of May, and thereafter at 32 deg. This should result in but slight Scald development with reasonably long storage life.

Of the pre-storage factors involved in Scald development, the most important is the maturity of the Apple at picking time. Early picked Jonathans are not very Scald-susceptible, even though stored continuously at 32 deg.

It is the later-picked Jonathan, picked, in a normal year, towards the end of March, which is so liable to Scald. Jonathans picked at this time possess maximum flavor and aroma, and are highly colored, while the flesh is crisp and juicy. Thus it is the Apple of the greatest commercial value which is most liable to Scald in store. Jonathans picked very late, when flavor is declining and the flesh becoming soft, although probably very highly colored, are not very susceptible to Scald, but such Apples are liable to become mealy in store at an early date.

Another pre-storage factor influencing Scald liability is the

Temperature of the Apple

prior to storage. It has been found that if Jonathans are warm, at a temperature of 65 deg. or above, just prior to storage, their Scald liability is greatly increased. Hence growers should not place hot Jonathans direct into store. The Apples should cool off overnight and be placed in store the following morning. Such a procedure, incidentally, greatly lessens the task of the cool store engineer in cooling down the fruit to the usual storage temperatures.

In the investigations on Scald it has been found that the factors which bring about Scald will also cause breakdown, so in observing the above recommendations, it is likely that "breakdown," another serious storage disorder of the Jonathan, will be overcome also.

In conclusion, it might be pointed out that in a survey of Victorian cool stores, it was found that Scald in Jonathans was worst where the Jonathans were stored in chambers precooling Pears for export. This is due to the fact that low temperatures 30 deg.-32 deg. are used for pre-cooling Pears. Hence it is undesirable to store Jonathans and Pears in the same chambers.

Exterior view of a portion of the 14-chamber cool store of the Australasian Jam Company.

Modern Up-to-Date Cool Store

We illustrate on this page section of the cool store of the Australasian Jam Co. Pty. Ltd., South Yarra, Victoria. This store, which has been designed and equipped on the most modern and up-to-date lines, now has a capacity of 100,000 cases. Altogether there are fourteen chambers, each chamber having an average capacity of 7,000 to 9,000 cases.

This store is especially designed for the handling and storage of fresh fruit, and in addition to the storage space there is ample floor space with all the necessary facilities for handling and repacking fruit. There is a complete installation of the latest conveyors and elevators, enabling up to 20,000 cases per day to be handled.

Special facilities are available for pre-cooling fruit prior to shipment for overseas. All fruit can be pre-cooled to 32 deg. within 24 hours of arrival.

The building, which is definitely fire-proof, is built of brick and concrete. Seven chambers are included on each floor. The store is insulated throughout with 5 in. cork board. The plant contains all the latest machinery in duplicate. There is a "Werner" and a "Lightfoot" refrigerator, and the store is electrically driven. Each unit is capable of holding the entire store at the desired temperature. Each of the fourteen chambers is fitted with the latest indicating, recording, and controlling instruments for both temperature and humidity. One chamber is fitted with wet battery air circulation, and the other thirteen chambers have the direct expansion principle, and are constructed so that if desired they may be used in conjunction with any requisite amount of air circulation.

In the early part of the year the store is used by the Company for precooling and holding their own stocks of Peaches and Pears prior to canning. From March onwards the store is available for storing Apples, Pears, and other products.

THE SUGAR BURDEN.

Speaking at the Bendigo Commerce Club at the end of February, Mr. J. H. Ely, fruitgrower, of Harcourt, stated that the high price of sugar had crippled the jam trade. Housewives who years ago bought cases of fruit and made jams for their families had given up this practice because the cost of sugar was too great. The factories were similarly affected, and growers could not sell their crops to factories as previously.

A 1½ lb. tin of jam was sold in shops for 7½d.; the fruit in it cost 1d. to 1½d., but the sugar cost of 4d. represented more than half the retail price. The sugar octopus was costing Australian taxpayers about £7,000,000 annually. Sugar growers on inflated land values were not getting more than living conditions, but the Colonial Sugar Refining Co., with a capital of £600,000, had "watered" its shares, the present nominal capital being £14,000.000. From 1887 to 1936 over £18,000,000 had been paid in dividends, also cash bonuses, capital returned, and bonus shares were distributed to the value of nearly £17,000,000.

The present sugar agreement would expire in 1941, but the public would find, as in the past, that the agreement would be renewed prior to the expiry date unless taxpayers took early action to prevent it.

A vote of thanks was accorded to Mr. Ely at the instance of Mr. F. W. Bush.

VICTORIA.

COOL STORES CONFERENCE.

The annual conference of the Orchardists' and Fruit Cool Stores Association of Victoria will be held at the Town Hall, Echuca, on Tuesday, May 17.

The agenda contains many items of interest and a large attendance is expected.

Amongst other items a report will be presented of the recent Apple Publicity Campaign, to which the Association made a contribution of £1,000.

Gerrard Sales and Service
A penny spent on Gerrard (wire-seal strapping) goes a long way in safe transport.
GERRARD WIRE TYING MACHINES CO. PTY. LTD.
MELBOURNE SYDNEY BRISBANE TOWNSVILLE
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The Tie That Binds

Motor Cars, Trucks, Tractors

GOOD DRIVING LIGHTS.

Aid to Safety.

MOTORISTS should appreciate that it is absolutely essential for night driving to have really good headlights. It is not only necessary for one's own safety, but also for the safety of other users of the road. Pedestrians and cyclists, in particular, are most difficult to see in poor, dim headlight beams, while even a lorry which has a poor rear light may not be seen until it is too late. Inefficient lighting greatly increases driving strain, and leads to dazzle dangers.

Time should be taken occasionally to check over the focus, and if the reflectors are old and dull, have them replated or replaced. The expenditure of a few shillings on a complete set of new bulbs may be well worth while. After fitting the new bulbs, it is necessary to check up the focus again.

MIRRORS TO SEE OVER HILLS.

A car dealer in Minnesota (U.S.A.) has evolved a "trafficscope" to enable motorists to see over the crests of hills.

An ingenious arrangement of mirrors is placed in position directly above the roads at the tops of hills and allows motorists to see either behind them or over the hill and driver on the other side.

Quick Facts about—

1938 CHEV. UTILITIES

WE DON'T WANT to appear abrupt, but we believe busy truck men would like to know the highlights of 1938 "CHEVROLET" utilties.

Here they are:

12 cwt. and 15 cwt. capacities. 112" wheelbase. 85 h.p. high compression, Valve-in-head, 6-cylinder Engine. New Diaphragm Plate Spring Clutch for smoother, quicker response, more positive in action, and easier in operation. Redesigned Valves and Guides with greatly increased cooling area for faster dissipation of heat away from combustion chambers. Electroplated Cast Iron Pistons, Four-bearing Crankshaft, Full length Water Jackets, Ventilated Generator, perfect Lubrication. Improved Electrical System, including new starting mechanism with overrunning Clutch and Automatic Throttle Advance for sure, quick-fire starts. Improved automatic Down-Draught Carburetion. Perfected Hydraulic extra-powerful Brakes. New Rear Spring Attachment to the rear axle housing for smoothness and stability. Easy-riding Springs maximum length. Chassis Frame of Box Girder Construction on the 12 cwt. capacity. Channel Steel Frame on the 15 cwt. capacity. Synchro-mesh Gears. Full Tool Kit. Holden all-steel Coupe front. Utility Bodies, with Panel Vans. Every type of Body required available for individual service. All Bodies designed to give maximum loading space.

1938 "CHEVROLET" Utilities are now on display—inspect them to-day. Demonstration gladly arranged. Prices from £249. (Plus Tax).

CHEVROLET — *Public Favourite No. 1.*

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Hints for the Motorist

Water in Tyre Carrier.

Water has the habit of draining to the lower part of the spare tyre cover and staying there until it evaporates. The presence of this water can go a long way toward rotting the tyre fabric. The best solution is a small hole in the bottom of the tyre cover, or in the lower part of the tyre well when spares are carried on the sides.

Reversing into Garages.

When backing into garages, considerable damage can be caused to the coachwork if the vehicle is inadvertenly allowed to run into the wall at the back. It is a good plan to secure a piece of timber to the floor, near the back of the garage, at a suitable distance from the wall. When the rear wheels of the car come against the obstruction the driver receives an indication that he has gone far enough.

Noise in Speedometer Cable.

There are usually two contributing causes for noisy speedometer cables. Noise will result when the lower cable tip is not seated properly in the speedometer drive gear or when sharp bends or kinks are present in the flexible shaft.

Remedying Noisy Brakes.

Squeaky brakes are sometimes rather hard to remedy. In many instances the squeak is found to be produced at the ends of the linings, and can be remedied in such cases by cutting off the ends of the lining to within a short distance of the first rivet. The ends of inner edges should be rounded so that no edges will come in contact with the brakedrum.

After Running-In.

Most motorist are aware that after running-in a new car it is advisable to drain and flush the crankcase and then refill with new oil. What is not generally recognised, however, is that at the same time it is advisable to clean the spark plugs. The reason for this is that during the light running period the engine does not get hot enough to prevent the formation of carbon deposit on the plug points and the cavity surrounding them. This advice applies also to the running-in period after a rebore.

When Tuning Up.

A tune-up job of the engine should include the following:—Cleaning the engine, vacuum tank, carburetter and spark plugs and adjusting the gaps of the plugs. The tappets should be adjusted, distributor cleaned, contact points adjusted and cleaned, camshaft and ignition timing checked.

Oil Gauge for Sump.

Time is wasted in topping up the engine sump by having to cease pouring oil from the can so as to withdraw the dipstick and vertfy the level If when next the sump is emptied and refilled the dip-stick is marked off in pints and half-pints and a graduated enamelled mug kept for transferring the oil from the drum to the sump. the exact quantity required to top up can be ascertained.

Front Wheel Bearings.

A worn front hub bearing may be a very serious matter, and in any case is a thing to be remedied at the earliest possible moment. The first indication that one gets of anything amiss is a persistent grinding noise coming from the front of the car. If on examination of the hubs it is found that the lubricant has run thin, and is oozing out of the bearing on the wheels, one can be certain of the cause of the trouble.

Mounting Rear-Vision Mirrors.

When fixing a driving mirror to the windscreen, it is important that it should be placed above the normal line of sight, and, of course, correctly inclined. It is a common mistake to fix the mirror on the sight level. Actually, of course, this does not improve the range, but results in the mirror obstructing the forward view when a right-hand turn is taken.

Fitting New Spark Plugs.

When replacement of spark plugs are needed, the casual practice of fitting any set of plugs which comes to hand is to be deprecated; engines are most susceptible to plugs. For easy starting and smooth running it is essential that they have the correct "reach" and are of the correct type for the engine as regards heat value. As a general rule, it may be said that plugs are of the right reach when their points are flush with the wall of the combustion chamber or cylinder head.

If the plug points are recessed or pocketed in the cylinder wall or head —the result of too short a reach— difficult starting and erratic running at low speeds may result, due to the fact that the plug is firing in a pocket of dead gas. If, on the other hand, the reach is too long, the points of the plug will protrude into the combustion chamber, and will soon become overheated, with the consequent danger of pre-ignition, loss of power, and perhaps serious damage to the engine. Always consult the recommendation charts.

The foregoing hints are from the "Radiator," official organ of the Royal Automobile Club of Victoria.

READING THE ROAD.

Hints for the Novice Driver.

A very good rule for all motorists, and especially for novices, is "never do the unexpected." Learn to observe the road ahead and to instinctively register the positions of other vehicles or of pedestrians, and equally instinctively calculate from what other traffic units are doing, their plans of operation. If one unit does something unexpected, it upsets all these calculations, and may lead to an accident.

Learn the hand signs for signalling to cars behind, and use them invariably, especially when about to stop or turning to the right.

It is not a sign of good driving to "shave" anything. Always leave a safe margin, which will give you a chance of avoiding trouble if the other fellow makes a mistake or does the unexpected.

ENOUGH PETROL LEFT.

"When my car ran out of petrol about two miles from home," writes a correspondent. "I slanted it on the roadside toward the side of the petrol tank opening. Then, using a piece of rubber hose I always carry in the car, I syphoned into a bottle every drop of petrol that I could get from the tank. I poured the petrol in the vacuum tank and this gave me enough power to get home."

There is an inner peace and beauty to establish which and live in it is to realise that separation and solitude are mere appearances.

NEW SOUTH WALES

Murrumbidgee Irrigation Areas

Successful Field Day at Griffith Research Station — Irrigation, Frost Prevention, Fumigation of Citrus Trees — Moderate Crops Showing of Navels and Valencias.

(By Our Correspondent.)

THE weather during the month has been dry and hot, and no rain to spoil the harvesting of the vintage of Wine Grapes, which has been a record.

The picking is now complete in all wine varieties, and the wineries are still very busy, although the main work of receiving the Grapes has ended.

The **Commonwealth Research Station** at Griffith was the centre of a large concourse of people when the Annual Field Day was held on the 6th inst. Many growers from the Leeton and Yanco Areas took the opportunity of this interesting and instructive day to visit the Research Station, and the expressions of approval heard in every quarter was a sure indication that this annual event was regarded by the growers of all parts of the M.I. Areas as being of the utmost importance to their interests.

Sir David Rivett, Chief Executive Officer of the Council of Scientific and Industrial Research was present, and addressed the assembled guests. Outlining at some length the activities of the various Research Stations situated in the various States, Sir David pointed out that the results obtained by experiments conducted had been of inestimable value to growers in all States, and where at Mildura they had different problems to investigate in the vine experiments and other work connected with the particular soils of those districts, at Griffith and on the M.I. Area the investigations being conducted were of a different nature, and ranged from the experimenting with the Cabungi or bulrush which infested the drainage channels, and had become a problem needing strict attention on its habits, to the investigation of soil conditions, and drainage.

So important was Griffith as a centre that after great deliberation it had been decided to extend the laboratories, and to erect a far larger building than that which was used at present, and this would greatly facilitate the future work.

A **Plant Physiologist** had been appointed to investigate problems arising from the nutrition of citrus trees, and this would be of special importance to growers of citrus on these areas, as it would deal with local problems.

Dr. Barnard, officer in charge of the Horticultural Section of the C.S.I.R., accompanied Sir David Rivett, and also addressed the gathering on the matters particularly connected with his own work.

Referring to the appointment of the Plant Physiologist who was to be appointed when the new laboratory was built, Dr. Barnard stressed the importance of the **investigations on the citrus trees**, as it was realised that there was an enormous loss throughout the State from the decline of citrus trees after they had attained a certain age, and had come into full bearing.

Mr. E. S. West, officer in charge of the Station, outlined the work which was conducted, and explained that extensive investigations were being made in connection with **surface irrigation**, such as the correct amount of water to apply to certain types of soils, the mode of application on other types, and other complex factors, which it was absolutely necessary to understand as the permeability of the various soils differed very greatly.

Effective methods for combating **frost attacks** had also been conducted in conjunction with the Officers of the Department of Agriculture, and had proved conclusively that frost damage could be overcome with the appliances which had been used, and warnings given in time to allow the growers to fight this menace.

Sir David Rivett also addressed a meeting of the Constitutional Association, at night, the Griffith Branch being the only one in the State, and many members who attended that function listened to a very instructive address on the "Progress of Science."

Citrus crops on the Area generally are looking well, and the

Fumigation of Citrus Trees

has been carried out during the past two months, most people favoring this method of combating the Red Scale, rather than by spraying, although there are still quite a number of the growers who favor the latter process.

Many thousands of trees have been treated by the Griffith Producers gangs, and private contractors, and there seems to be a far more united front being shown that in past seasons, for it is keenly realised that it is a far more economical practice to fumigate and obtain clean fruit, rather than even to have a mild infestation and thus cause the fruit to be processed in the water spray, which practice must deteriorate the quality and reduce the price.

So stringent are the Departmental Regulations becoming, and particularly so where the fruit is being exported, that growers are realising that unless absolutely clean fruit is produced, it is not a payable concern to grow it.

Cultural practices throughout the Area have greatly improved during past years, and the manuring of the farms has assumed large proportions. Sheep manure, where procurable, is greatly favored, and the large shearing shed anywhere within 100 miles of these Areas have been depleted, and it is now necessary to go to great distances and trust this useful commodity in order to supply the demand.

Navels are showing moderate crops, and in a few places are fairly heavy, the fruit tending to be somewhat large and coloring up early. A few Thompson Navels are already well colored, but still lack the necessary sugar content to enable them to be marketed, and with a cool change in the weather this will probably be several weeks yet.

Valencias.—There are some excellent crops of this variety, but generally the crop it inclined to be on the light side.

Lemons.—These are showing up well, although the general acreage on the M.I.A. is not large, and prices during the past few weeks have been satisfactory, there having been somewhat of a shortage.

Rock Melons have been rather largely grown during the past season, and have realised better prices than in the past few seasons. Many thousands of crates have been sent to the Sydney and other markets, and probably the influx of population owing to the Centenary Celebrations has accounted for the increased demand.

Tomatoes.—The season has not been a good one for this type of vegetable (or is it a fruit?), and prices even locally have remained high throughout the past months, the very hot, dry spell of weather has in many cases burnt both fruit and vines, and at times it has been difficult to obtain good fruit.

French Beans. — Some excellent crops of these may be seen on some farms, but the acreage is not large, and the growers are principally growing them for seed, which has to be specially grown from selected seed, and under the supervision of an officer of the Field Branch of the Agricultural Department, in order to pass for sale as selected seed (var. Tweed River Selected).

Greenfeast Peas.—Quite a considerable acreage of this variety has been planted, and growers have realised very satisfactory returns during past weeks. Peas generally fetch higher prices than French Beans, owing to their better keeping qualities.

Quinces.—There is quite a considerable acreage under this fruit, and crops have been heavy, but are now practically all harvested, and only a few tons of late variety remain.

Rice Crops.—These are looking splendid, and so also are any irrigated crop of Oats and Wheat which have been sown on last season's rice land. With the dry conditions in outside areas, there is great demand for agistment for sheep and cattle, and those people fortunate enough to be able to take in stock are doing well by this means.

Large flocks of sheep are being

Portion of block of 5,000 Moorpark Apricots at the nursery of Mr. H. N. Wicks, Balhannah, S.A.

GRUBBING WITH A "DIGGER" WINCH

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Write for Catalogue

A Man can uproot more Trees and Stumps in a Day than he would dig out in Ten Days

QUICK MANUFACTURING CO., 75 Penders Street, Thornbury, Victoria

herded along the channel reserves, and in any places where a feed of Paspalum or other grass is obtainable.

Visit of Mr. C. Katekar.

An interested visitor to the M.I. Areas during the month was Mr. C. Katekar, of Renmark, S.A., who is chairman of the Renmark Irrigation Trust, and a prominent citrus grower in that district.

Mr. Katekar owns the famous "Rose" Orange orchard, and his opinion of the Orange groves and general opinion of the M.I. Areas is of value.

Mr. Katekar expressed astonishment at the size and development of these irrigation settlements, which far surpassed anything he had expected to see, and he was convinced that it was of very great educational value to growers in other irrigation areas to make a trip to see these extensive and progressive schemes. The excellent "lay-out" of the settlements, and specially the towns of Leeton and Griffith, with their splendid modern hotels and other buildings were indeed a revelation, and for their age, very few towns could show such development in so short a period.

Mr. Katekar also inspected the Leeton Cannery, Commonwealth Research Station, Penfold's and McWilliams' Wineries, Griffith Producers' Packing Shed, and some of the best orchards in the district, and was particularly impressed with the rice fields, where the crops are now showing heavy heads of grain.

The Spray Irrigation System was of special interest, as Mr. Katekar owns a considerable area of high land, and he considered that spray irrigation in such a form was the most economical way of watering he has yet seen.

Mr. Katekar left these Areas with a fixed idea of inducing other growers from the sister State to come and see for themselves the great development that irrigation is making in N.S.W.

NEW SOUTH WALES.

Camden. — Excellent fruit was on view at the recent 53rd Camden Show. Apple varieties included Granny Smith, Jonathan, Delicious, McIntosh Red and Yates. Pears: B. Bosc and Packhams, the principal prize winners being C. W. Sharp, A. E. Wood, W. H. Thompson, G. Findlay, A. and R. K. Hughes. Other sections and prize winners included Lemons (G. O. Longley), Navel Oranges and collection of fruits (A. E. Wood), Passionfruit (A. and R. K. Hughes), Quinces (C. W. Sharp), Persimmons (Miss Chisholm), Watermelon (L. Smart), nuts (C. O. Boardman).

Uralla.—Improvements in fruit exporting methods are sought by growers at Uralla. Inspection at packing sheds or country railway stations is desired instead of at the port of shipment. Mr. H. E. Wilkinson states that growers honestly believed their fruit was well up to export standard and they were astonished when advised of rejection at Sydney.

FRUIT GRADERS
WASHING MACHINES, Etc.

We make all sizes and styles of Fruit Sizing Machines from the smallest at a very low price suitable for the stone fruitgrower with only a few acres, to the largest and most complete packing house plants ever produced. Machines with instantly operated independent controls to all roller sections. Highest class workmanship and reasonable prices.

WASHING MACHINES FOR APPLES AND CITRUS.

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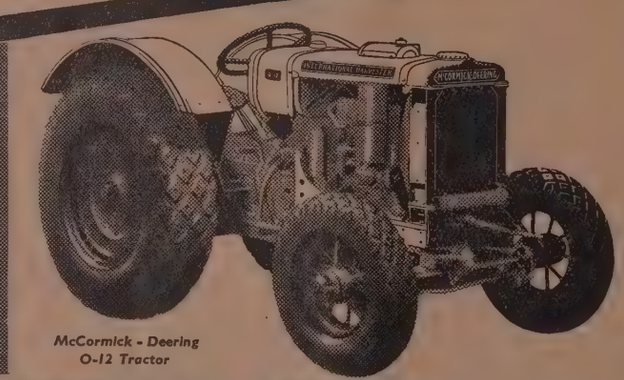
The ORCHARDIST'S Economical Triple-Powered Kerosene Tractor

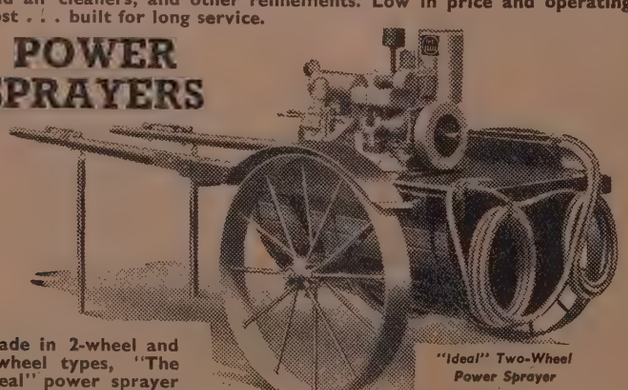


McCormick - Deering O-12 Tractor

McCORMICK-DEERING O-12

Built especially for orchard work, this small, compact tractor works nimbly between the rows without injury to fruit, branches or roots. O-12's features include replaceable cylinders, high-tension magneto with automatic impulse starter, down-draught carburetion, fuel, oil and air cleaners, and other refinements. Low in price and operating cost . . . built for long service.

POWER SPRAYERS



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Made in 2-wheel and 4-wheel types, "The Ideal" power sprayer is a self-contained outfit powered by an "Ideal" 2 or 3-h.p. engine. Will give excellent service under the most difficult working conditions.

Write to us for full details of any equipment you need for your orchard—or see your McCormick-Deering local agent.

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N. S. W. Fruit Crops

Sydney, 9/4/38.

The Under-Secretary for Agriculture (Mr. G. D. Ross) has issued the following report:—

Apples.—Generally dry weather was experienced throughout March and in most inland districts its adverse effect was most noticeable.

Lack of rain is proving extremely serious in orchards at Young, trees are becoming defoliated and buds for next season's crop appear very pinched.

Most late varieties of Apples failed to develop satisfactory size, while around **Orange** maturity was earlier than usual and the fruit also small. On the **Northern Tableland,** Granny Smiths are stated to be practically the only first-class fruit available; Jonathans failed to size properly, and Sturmers were badly burnt on the trees.

Harvesting of Granny Smith, Rome Beauty and Democrat is proceeding in a number of areas. At **Batlow,** London Pippin, Delicious, Lalla and Jonathan are being picked, and approximately 1,300 cases of choice Jonathan and 400 cases of Cox's Orange Pippin have been exported overseas.

Pears.—Practically all Pears have been picked, but some Winter Nelis and Packhams still remain on trees in the **Goulburn** locality. Many lots, chiefly Packhams, have been placed in cool store at **Orange.** The following quantities of Pears were consigned to overseas markets from **Batlow** during the month:—7,000 cases Packhams, 2,500 Josephine, 2,500 Winter Cole, 600 Beurre Bosc, 210 Howells and 400 Beurre D'Anjou.

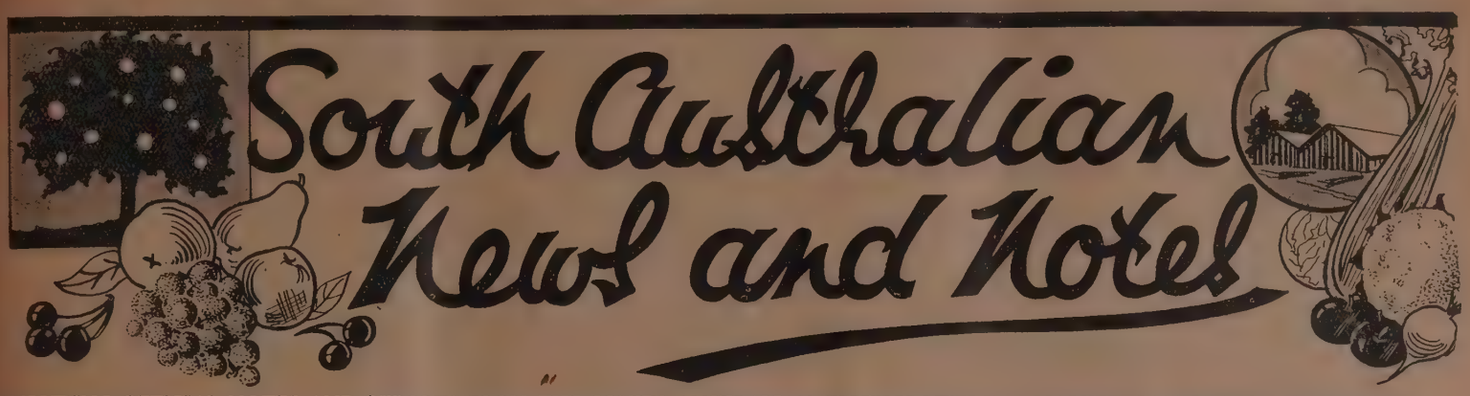
Citrus.

The early generally favorable outlook throughout coastal groves was not maintained owing to the hot, dry weather which prevailed. The adverse conditions have had the effect of retarding development of much main crop fruit, and in some instances appear to be hastening maturity.

On the **Irrigation Areas** satisfactory progress continued and at **Curlwaa** and on adjoining settlements the prospects of Navels and Valencias are better than anticipated earlier. There are still fair quantities of intermediate Valencias in a few areas, but in most localities these Oranges have been cleared.

Bananas.—Fine weather prevailed during the first half of the month, and this permitted of much needed cultivation being carried out. Subsequently heavy rains and, in parts, winds of gale force were experienced. Generally conditions favored progress with the exception of stands on low-lying areas which were flooded.

Lighter consignments are expected from **Tweed Heads** owing to fruit, particularly December bunches, maturing earlier than usual. Medium quantities of good quality Bananas are indicated from Lismore and Woodburn during April, but supplies from the latter centre are likely to decrease towards the end of the month. Around **Macksville** the sultry weather has had the effect of forcing development and November lots especially are ripening quicker than in normal seasons; good marketings are anticipated for the next month from this district.



INCLUDING OFFICIAL NOTES AND REPORTS FROM THE SOUTH AUSTRALIAN FRUITGROWERS' & MARKET GARDENERS' ASSOCIATION.

The South Australian Fruitgrowers' & Market Gardeners' Association Incorp.

Executive Meeting

THE April meeting of the Executive of the above Association was held in the Board Room, 288a Rundle-street, Adelaide, on April 29, 1938.

Present: The President (Mr. W. J. Bishop, Basket Range), Messrs. J. G. Potts, C. Ridley, A. G. Gibson, N. T. Hobbs, C. J. Pitt, A. J. Hollister, J. B. Randell, H. B. Robson, H. H. Schultz, G. Jennings, A. Elliott, H. N. Wicks, G. T. Pitt, G. J. Strange, F. Rowley, E. L. Giles, J. Turner, G. H. Schultz, L. J. Wicks, H. J. Sharpe, A. O. Petersen, C. H. Ragless, and Secretary (A. Stuart). Apologies were received from Messrs. R. A. Cramond, F Hughes, F. A. Wicks, I. R. Adams, and C. W. Giles.

Minutes of last meeting as sent out were taken as read and confirmed.

Correspondence: (1) Mrs. G. J. Strange returning thanks. (2) J. L. Price, M.P., re Prune Bounty. (3) Hon. T. Playford re water down the Torrens River. (4) Royal Agricultural and Horticultural Society of S.A., expressing appreciation of the offer of two special prizes for this years' Royal Show. (5) Adelaide Fruit and Produce Exchange Co. Ltd. re market starting time for Saturday morning markets. (6) Sturt Producers' Society re cool storage. (7) Government Produce Dept. re cool storage. (8) Dept. of Agriculture re fruit in cold storage for March. (9) Dept. of Agriculture re proposed amendment to Fruit and Vegetable Grading Regulations. (10) Mr. A. G. Strickland, Chief Horticulturist, accepting invitation to attend Executive meetings of the Association.

Mr. J. R. Randell moved: "That the correspondence as read be received, and dealt with." Mr. H. B. Robson supported. Carried.

Discussion arose on the showing of export Apples at the Royal Show. Mr. J. Turner moved, supported by Mr. H. Schultz: "That we recommend to the Royal Agricultural and Horticultural Society: "That after the judging of the Apples, a row be uncovered and the labels exhibited." Carried.

Mr. J. B. Randell moved: "That letters from Sturt Producers and Government Produce Dept. concerning cool storage be handed on to the Sub-Committee." Seconded Mr. H. Schultz. Carried.

Photograph of a Gardeners' Picnic Committee was presented to the Association by Mr H. Wilson, of the S.A. Paper Bag Co., and submitted to the meeting. Mr. H. N. Wicks moved, seconded by Mr. C. Pitt: "That a letter of appreciation be forwarded to Mr. H. Wilson for his kindness in presenting photo." Carried.

Reports: The Secretary presented the manager's report on the trading activities of the Fruitgrowers" and Market Gardeners' Society Ltd., over the past month. The report showed that very satisfactory progress is being made by the Society.

The Secretary reported on the visit to South Australia of Mr. Henri D. de Couter, of London, and his desire to meet the growers on Thursday, May 5.

Mr. J. R. Randell moved: "That provided 12 or more attend we accept Mr. de Couter's offer to address the growers." Seconded Mr. J. Turner. Carried.

Apple and Pear Section: Mr. J. B. Randell, chairman of the Apple and Pear Section, reported that a meeting of the Section had been held during the month, and had dealt with prices for that commodity. Prices had been fixed for different varieties, and growers would be advised of prices by means of a price ticket subject to the approval of the Executive. The matter of press reports was also dealt with and the Section recommended to the Executive that daily press reports be published. It was also the desire of the section to have statistical information made available more quickly to help the Committee.

Mr. J. Turner moved: "That the Association authorise the delivery of the Apple Price Tickets." Seconded Mr. E. Giles. Carried.

Press Reports: Mr. G. H. Schultz moved, seconded by Mr. A. Elliott: "That a small committee be appointed to go into this matter." Carried.

Mr. J. B. Randell moved: "That the President and Secretary interview the 'Advertiser' concerning press reports." Seconded Mr. E. Giles. Carried.

Delivery of Price Tickets: Mr. J. B. Randell moved, supported by Mr. C. Ragless: "That President and Secretary arrange for the distribution of the tickets." Carried.

Celery Section: Mr. N. T. Hobbs reported that the Section had one of the best openings for many years. Loss through disease had been fairly extensive early in the season, but later climatic conditions had resulted in better quality export. He and Mr. Strange had visited the Eastern States, and had arranged various matters in the interests of the industry.

Potato Section: Mr. C. Pitt reported that owing to the excessive rain making digging impossible, there had been a great rise in the price of Potatoes during the past week.

The President then welcomed Mr. A. G. Strickland to the meeting.

Mr. Strickland commented upon the enquiry being held in Australia into the Potato position which will do a lot of good in obtaining seed free from disease. The enquiry will do a lot towards finding out the problems confronting growers to-day.

Tomato Section: Mr. A. Elliott reported that a new Committee had been appointed, and a meeting called for Tuesday next, when a chairman would be appointed.

Citrus: Mr. N. T. Hobbs reported on behalf of that Section.

Mr. Strickland spoke on **Water Core in Apples.** This will disappear fairly quickly during shed storage, but not so quickly during cold storage. It was noticed after cool storage that the fruit will break down. The Department were going to introduce an innovation of having the Apples X-rayed to see if water core will show up without cutting.

Mr. Strickland replied to numerous questions asked by members.

Mr. H. Schultz, supported by Mr. H. N. Wicks, expressed appreciation for the information given by Mr. Strickland and also for the assistance given during the present export season.

Social Club: The matter of a Social Club was reported on by the President who stated that the matter was receiving consideration. Educational evenings would be continued provided a definite assurance was given by members that they will attend such meetings.

Finance: The Secretary submitted the financial statement and presented accounts for payment.

Mr. E. Giles moved: "That statement be adopted, and account be passed for payment." Seconded Mr. H. Schultz. Carried.

The Secretary reported that the death had occurred of Mr. Geo. H. Parsons, who for many years had been a great worker for the Association and the industry generally.

The weather in South Australia during April has broken many records. Not only was the hottest April temperature recorded, but also the coldest. This was followed by torrential rains throughout the settled areas of the State, and places in the Adelaide Hills have already recorded 11 inches for the month. The dry conditions prevailing during the early part of the month was becoming serious, but the timely rains have assured the State of a good season. A very severe hail storm on Good Friday which fortunately covered only a narrow strip caused extensive damage in the eastern and southern suburbs of Adelaide. The hail in many instances measured 1½ in., but with the exception of the damage caused by the hail the rains will have a beneficial effect.

HON. THOS. PLAYFORD.

Since the publication of April edition of the "Fruit World," when an account of Mr. Playford's parliamentary activities was published, it is a pleasure to report that he has been appointed to the position in the Ministry of Minister for Public Works, and Repatriation. Those who are in contact with Mr. Playford, and thereby know his capabilities have no fear that his service in his new position will mean only success to that Department.

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SOUTH AUSTRALIA (Continued)

Science and Agriculture

Dr. A. E. V. Richardson on Value of Research

Solving Problem of Distribution

Need for Balanced Economy.

As Reported in the "Advertiser," March 18th, 1938.

ONE of the most satisfactory features of recent years had been the change which had taken place in the attitude of the community and the Government towards agricultural research and education, not only in this State, but throughout the Commonwealth, said Dr. A. E. V. Richardson, the recently appointed deputy chief executive officer of the Council for Scientific and Industrial Research at a farewell dinner given in his honor by the Vice-Chancellor of the University of Adelaide (Sir William Mitchell) at the Refectory last night. There were about 50 professors, lecturers, deans, and research officers of the University present.

"To-day the importance of agricultural research has been recognised and has found expression in South Australia," said Dr. Richardson. "In the wider fields of the Commonwealth, the demand for scientific research in agricultural and pastoral problems has become so insistent during the past decade that the C.S.I.R. has now more than 500 workers engaged in scientific research in primary production problems, but what is of greater significance and importance, the contributions received from sources outside the Government—mainly primary producing organisations—amounts to well over £50,000 a year.

Improving Methods.

"The experience of other countries and indeed of our own has abundantly demonstrated that the only way to secure a genuine and permanent increase in the output from the land is to improve the farming methods of the country and to apply the teachings of science to every phase of primary production That is why research and education are essential for agriculture, and why education and research merit the support of Governments.

"South Australia's greatest and permanent assets of a material character are the lands in the moderate to good rainfall areas. They are potentially the most productive areas of the State. They are the areas on which intensification and diversification of production can best be carried out. They are the areas on which we should concentrate our efforts in increasing production. The thorough development of these good rainfall areas, not only in South Australia, but throughout Australia, would provide outstanding opportunities not only for the agricultural scientist in discovering new knowledge, but also for the agricultural extension worker in applying knowledge already won."

Professor Richardson stated that one interesting feature of primary production in Australia was that, though it had expanded enormously in wheat, wool and dairying, the number of people engaged in primary production had not increased proportionately to production. That was due to the mechanisation of production enabling each individual to deal with larger acreages of wheat, and to the increased yields per acre due to more efficient methods of production. Much the same trend could be seen in other primary industries.

A pressing need for Australia was that her population should increase more rapidly than was possible by natural increase, and at the same time provide employment for increased numbers. Primary production alone, even if markets for additional produce were available, could not absorb the increased population that Australia needed for her safety, he added. Secondary industry, on the other hand, had been expanding rapidly, and there were still many fields in which Australian manufactures might develop, providing not only new avenues for employment, but also a very large home market for Australian production of both primary and secondary industries.

The importance of secondary industries to national progress was seen by its increasing magnitude. The number of hands employed in Australian factories was nearly half a million and the total value of the factory output approximately £4,000,000,000 a year.

Primary industries were, of course, of very great importance to Australia and should be developed, by research and education, to the limit of available markets. What was needed however, was a well balanced economy, in which both primary and secondary industries would contribute their share to the progress and prosperity of Australia. The interdependence of the two great branches of industry made the effective building up of either of them a matter of national concern, but it was absolutely essential, in national interests, that both these branches of production should be conducted as efficiently as possible.

The value of scientific research in enabling Australia to develop her resources might be illustrated by two examples—the Australian discovery of the flotation process of treating metallic ores was one outstanding example: the other was the discovery by C.S.I.R. workers of a suitable method of using Australian hardwoods for paper manufacture, previously declared by experts accustomed to methods adopted elsewhere to be quite impracticable. The latter discovery would make possible the manufacture of paper pulp and newsprint from Australian hardwoods.

Scientific Work.

"It has been argued in some quarters," said Dr. Richardson, "that science should take a holiday because the world channels of distribution have been choked and glutted with surplus products, due to science and invention. But we might as well command the sun to stand still as to say that science should take a holiday.

"Science has certainly turned scarcity into plenty, and it has done the first job of production magnificently. The failure to distribtue the fruits of plenty equitably must be charged to organised governments and the development of economic nationalism. Science has shown how to produce; now it must show how to distribute what we produce. We need economic machinery corresponding to our scientific machinery in precision, power, and delicacy of adjustment. To production science we must add economic science without for a moment ceasing to advance the former.

"With the continual advance of scientific knowledge and the willingness to apply it, the time is coming when a smaller proportion of the world's population will be capable of producing all its requirements in food and clothing shelter, and transport—the four fundamental needs of mankind. Should we look forward to that time with fear and dread and moan at the production of each new machine that reduces the call for manual labor? On the contrary, we should rather look forward to that time with joy and satisfaction, as a period in which it will be possible for a greater and greater proportion of the community to give their minds to the pursuit of other things than the mere material needs of mankind."

Professor Richardson also referred to the necessity for developing the aesthetic side of farm life and the need for planting trees and shrubs, preferably native, around farm households. He suggested that the University should plan to establish an arboretum in semi-arid areas, to demonstrate the usefulness and value of native trees.

Sir William Mitchell proposed the toast of the guest of honor.

The South Australian Fruit Marketing Association, Inc.

Meeting of Executive Committee

Minutes of monthly meeting of members held at the Secretary's office, Brookman Buildings, Grenfell-street, Adelaide, on April 29.

Present: Messrs. F. B. James, A. G. Strickland, C. L. Winser, A. R. Willsmore, R. O. Knappstein, J. B. Randell, P. R. B. Searcy, S. M. James, A. O. Petersen, F. F. Redden, G. Quinn, H. J. Bishop, and the Secretary. Apologies: Messrs. M. G. Basey and R. H. Lewis.

Chairman. Mr. J. B. Randell occupied the chair at the commencement of the meeting until the arrival of the President, Mr. H. J. Bishop, who then took the chair.

Minutes of monthly meeting held March 25, were amended at the request of Mr. F. F. Redden, to read: "Mr. Redden expressed the appreciation of members to Mr. Strickland for agreeing to inspect personally any fruit that was on the borderline of being rejected for spray residue before it was finally rejected by his officers."

With this alteration the minutes were taken as read and approved.

Finance: Financial statement was submitted by Secretary and received.

Correspondence: Letter from the manager, Government Produce Dept., dated April 27, advising that the O.S.R.A., Sydney, had ruled that the discount and rebate allowed on Apples and Pears would not be granted for Plums as Plums were not included in the freight agreement, Form D.

Mr. Pope stated that it was understood that this discount and rebate would also apply for Plums, and asked that the Association should place the matter before the Apple and Pear Council with a view to taking action to obtain the same freight concessions for Plums as are in force for Apples and Pears.

It was agreed that the Association take this matter up with the Apple and Pear Council.

Letter from Royal Agricultural and Horticultural Society dated April 11, acknowledging receipt of advice that the Association will continue to donate £2/2/- for a Special Junior Apple Packing Prize.

Letter from Department of Agriculture dated March 19, enclosing draft of proposed amendment to the Fruit and Vegetables Grading Regulations, 1937.

The suggested amendments were approved.

Australian Apple and Pear Export Council, letters re trade with Canada, re trade with the East, enclosing minutes of the Empire Fruit Council and Department of Commerce Bulletins.

Mr. P. R. B. Searcy kindly undertook to peruse this latter correspondence and report thereon to the next monthly meeting.

Apple Publicity: Correspondence received in January and February, in regard to Apple Publicity for the coming season was again considered, but was held over till further information was available from the Apple and Pear Council, as to the present position in regard to the publicity scheme for the coming season.

Research Sub-Committee: Owing to the small attendance no formal meeting was held and those present had a general discussion.

A Banana ripening plant has been installed in Sydney at a cost of £7,000.

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MID-MURRAY NOTES

EXTRA HIGH QUALITY PACK OF SULTANAS AND CURRANTS — COLD POTASH DIP FAVORED — CAUSES SUGGESTED FOR SUCH FRUIT AS IS NOT UP TO STANDARD — PRUNING METHODS EXAMINED — DRY SPELL UNLIKELY TO AFFECT NEXT YEAR'S CROPS — IMPORTANCE OF COVER CROPS AND HEAVY DRESSINGS OF PHOSPHATES — DEVELOPMENTS AT BARMERA.

(By Our Correspondent.)

IN REVIEWING the growing and drying season of our main crop—dried vine fruits—the outstanding feature is the long spell of unbroken sunshine during the drying season, a feature unparalleled in the history of the irrigation areas since dried vine fruits constituted the major part of our production. In consequence of this, the fruits, and especially Sultanas, have been of a high quality. This has been very gratifying in view of the fact that for the past two seasons rain had fallen at a particularly inopportune time, and affected the grade of our Sultanas and currants.

In the season just passed we have obtained an uplift in quality so sorely needed to bring our fruit up to a standard comparable with the world's best. There has been a considerable swing over to the **cold potash dip** this year, and growers who have used this dip for the first time have had to learn the art of eliminating the green tinge, a dominant characteristic of this process.

The Department of Markets Inspectors have been severe on any fruit showing green tinge when delivered to the packing houses, but when a grower has had a load of fruit returned to him on account of its color, he has done some swearing, but eventually managed to bleach it to a color acceptable to the trade.

The early picked Sultanas, owing to their lack of sugar, proved difficult to bleach, but as the season progressed this difficulty became less apparent, particularly as there was sufficient "sting" in the sun to bleach the fruit in a couple of days, whereas the early fruit took a week.

The use of a waterproof prepared paper, in the place of hessians upon which the fruit is spread after removal from the drying racks has helped considerably in shortening the time of bleaching, not only has it proved of some value in this respect, but in the event of rain, the fruit can be easily protected by covering and overlapping the sides, whereas the old hessians had to be carefully protected, otherwise they would absorb moisture like a sponge.

The lively drying season has brought quick and early deliveries to the packing houses, and the Renmark Fruit Growers' Co-op. report having received up to March 30, 3,370 tons of fruit, as against 2,365 tons up to the same date last year. Fruit has been delivered in a more regular stream this year than last year, which facilitates packing operations to a great extent.

Up to the end of March this company had sent away 1,400 tons, and had over 1,000 tons packed and stored on the premises. Early in the packing season the management of this co-operative company invited its members to inspect samples of grades of various fruits displayed at their premises. A comprehensive range of all fruits was staged, giving a comparison between the fruit as it is delivered unprocessed in sweat boxes and the packed article ready for market.

The board of management of this company must be commended on giving growers an opportunity to become acquainted with inspectors' samples, and so obviate the necessity of many arguments regarding grade quality. This inspection has proved such a success that the board have decided to make an inspection of this kind a yearly affair.

Although the greater portion of the Sultanas are of a high grade (4 and 5 crown), there is a good deal of a lower grade, and going into the why and wherefore of the lower grades I find that the cinctured Sultanas seem to have crashed badly.

Another reason for lower grades is due to attacks of Black Spot, which developed during the December and January rains, and another reason can be found in the attacks of Oidium, which were particularly bad in isolated places, whenever weather conditions favored its development.

Apart from the attacks of fungoid diseases, there is yet another factor which has been responsible for lowering the quality of Sultanas, and that is, **the leaving of too many canes during last pruning season**, or, I might add, not supplying the vine with sufficient plant foods to mature the fruit the vine is asked to produce.

Strong vines can stand a good many canes, but we get the grower who hears of success following a policy adopted by some growers in leaving every available fruiting cane within a pruning radius, and he leaves 6 canes on a 4 cane vine and 8 canes on a 6 cane vine, and so on.

The fallacy of this practice is often not evident until the fruit is picked and dried; it will then be found that many of the berries on the bunch are undernourished, lack sufficient sugar and to use an apt expression—"have no guts." This is the main cause of the dark berries which spoil a 4 crown sample.

To produce a 4 or 5 crown article, the fruit must be good before it is dipped, for you can't make a "silk purse out of a sow's ear." Adequate supplies of the requisite plant foods must be available during the sugaring process, and in addition a constant source of sufficient soil moisture must be kept up so that the plant foods can be utilised.

Just as individual bunches develop progressively in sugar density during the ripening process, so do the individual berries on the bunch vary, and in the event of a water shortage, or any other setback, a collapse of individual berries may be brought about, and so cause dark berries to obtrude and spoil the sample.

The prolonged dry spell during the harvesting operations has caused a premature yellowing of vine leaves, and premature leaf fall. Growers have been asking whether this effect is likely to affect next year's crop. On the present showing, Sultana rods which will be used for next year's fruiting wood seem to be well matured and lands are fat and healthy, but

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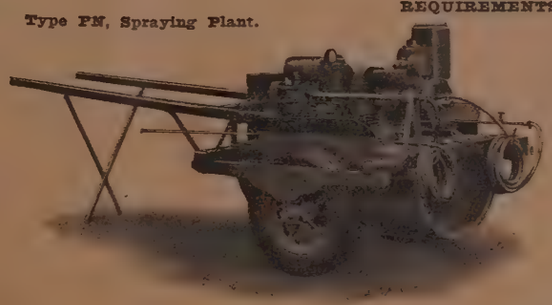

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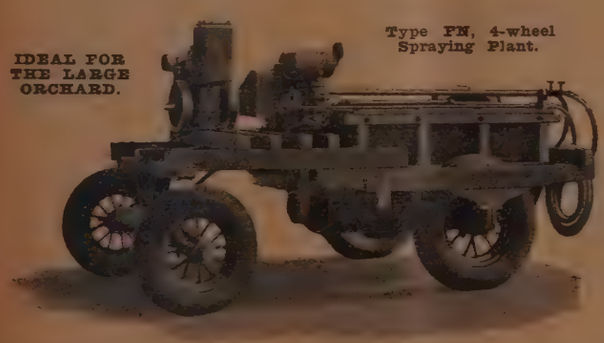

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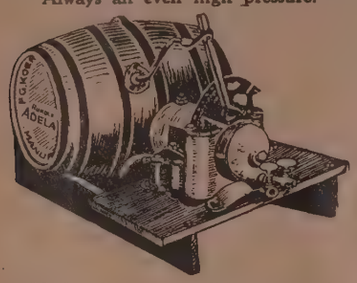

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MID-MURRAY NOTES—(Continued)

there is no doubt that the lack of chlorophyll in the leaf has restricted the carbo-hydrate assimilation. This may not materially affect next year's crop, but if it happens for several years in succession will undoubtedly have a devitalising effect on the vine.

The majority of cover crops have been sown with the last special irrigation which started during the first week in April. Although a limited acreage was put in during the March irrigation, the majority of growers were then too busy with harvesting operations to take time off to plant and irrigate cover crops, and which would also have interfered with the picking.

Beans have been scarce this year, and expensive (11/6 per bushel). The bulk of the Beans used for cover crops have to be imported from Tasmania, but I see no reason why these cannot be successfully grown anywhere in the irrigation areas of S.A., Vic., or N.S.W.

Judging by the increased yearly demand for Tick Beans for cover cropping in the irrigation areas, the growing of this Bean for seed purposes should prove highly successful. The writer has always been in favor of **heavy dressings of phosphates with cover crops**, and was recently taken to task by a grower who said that the best cover crop he ever had was grown without an artificial manure of any kind. Unless we follow the cover crop beyond surface indications we may be led into the error of judging it just by what we see.

It is when a cover crop is below the surface that its real object begins, and in the absence of phosphates, nitrification and the general disintegration of the organic matter is retarded. In the total absence of phosphates nitrification does not take place. The phosphates taken up by the Bean in the course of its growth is again incorporated with the soil when it is ultimately converted into humus.

Phosphates are singularly deficient in most of our Australian soils, and in particular in the soils of our irrigation areas.

To create that balance necessary for healthy vine growth and good production, phosphates are essential in heavy dressings.

A striking example was recently brought to my notice on the benefits to be derived from cover crops. We will call them A and B. Whereas A consistently adopted the policy of cover cropping while B had not followed the practice. Both blocks were of equal soil type, having a slope towards the same direction. A's block was in good health and bearing consistent good crops, whereas B's block showed signs of salt trouble, the vines are weak and unthrifty, and altogether have a hungry look; lost their leaves very early, and carrying a lot of immature wood.

B has now planted a cover crop for the first time, and owing to the concentration of surface salt it is not doing very well; it will take him many years to bring the vines back into good production, because of the difficulty in getting a cover crop established. If a legume cannot be successfully grown on land with a fairly high salt concentration, the best plan is to plant a salt tolerant non-legume such as Barley or Rye for a year or two, after which a legume could be grown more easily.

Barmera is the youngest of the mid-Murray towns, yet it has proved to be a lusty child, and upholding the tradition for that co-operative spirit so strongly developed in the River areas. Its progress can be attributed largely to the establishment of a community-owned hotel, of which there are now four on the river—Barmera, Berri, Loxton and Renmark—the profits of which go to beautifying the towns. Barmera has appropriated Easter Monday as a day for festivities, and since the chartering of special trains to bring people from the farming areas on that day, it has met with such success that this day is set apart for sports and entertaining the thousands of children and parents who flock to the lakeside for a day's enjoyment. This year, greater efforts than usual were made to ensure success, the occasion being the Centenary of the discovery of Lake Bonny by Joseph Hawden. Situated on the shores of this 20 sq. miles expanse of river water, Barmera makes an ideal setting for a day's relaxation, and is in fact attracting summer tourists from the other States. The Centenary celebrations extended over several days, which culminated in a final flutter on Easter Monday. The Continental, which took place on Thursday, was opened by our newly-elected member for the Chaffey district, Mr. W. McGillivray, at which the sum of £56 was raised. Mr. A. J. Tonkin, chairman of the Barmera Publicity Bureau, and incidentally, "mine host" at the Barmera Hotel, also welcomed visitors and friends in a few well-chosen words.

More than 3,000 people attended the Easter Monday picnic, and the two special trains were crowded with happy humanity. These trains drained the farming area for a radius of 100 miles, and coming from districts where water is precious and in places has to be carted many miles, the sight of 20 square miles of fresh water must have been a delight for tired eyes.

Barmera deserves its success, and will in time develop into a popular inland tourist resort when it is better known.—"Nemo."

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Balhannah Fruit Tree Nurseries

SITUATED in the undulating country in the Onkaparinga Valley of South Australia, the locality of this nursery is ideal for growing of deciduou trees. The trees make a wealth of fine fibrous roots, and the stocks are hard and well matured, being hardened by the cold Autumn nights experienced in this locality. Trees produced in this way make a good start irrespective of the locality in which they are planted.

A visit to this nursery recently revealed an excellent stock of young trees. Almonds are grown very largely. A new variety being distributed this year is Elmsdale, a paper shell variety which is said to be superior to Californian Paper Shell and is a heavy cropper. This variety originated at Balhannah, where it has fruited well for years, and has also grown well on the Adelaide plains. It sheds its husk easier than Californian Paper Shell, and although the kernel is slightly smaller, it nevertheless outweighs the Californian. Other popular varieties of Almonds are Brandes Jordan, IXL, Ne Plus Ultra, Peerless and White Brandis, Chellaston, Johnsons Prolific.

Large quantities of **Apple stocks** are grown, including the main export varieties, such as Cleopatras, Delicious, Dunn's Favorite, Granny Smith, Rokewood, Rome Beauty, Tasma and other varieties suitable for local trade.

An excellent block of **Moorpark Apricots** for 1938 delivery was noted. Other varieties in the Apricots section include Newcastle Early, Riverside, Trevatt and others. All these trees are worked on seedling Apricot stocks.

South Australia is noted for the quality of the **Cherries** grown. Tracts of land in the Adelaide hills produce Cherries equal to the best in the world. The Balhannah Nurseries grow large quantities on Mazzard Cherry stocks. Some of the varieties noted include Biggareau Napoleon, Black Tartarian, Florence, St. Margaret, and William's Favorite.

Peaches, which are recognised as quick revenue producers, are grown very largely at this nursery. Over twenty-five varieties are to be obtained, including those that fruit early in the season, mid-season and up to as late as early March.

Early bearing varieties include Anzac, Briggs' Red May, Duchess of Cornwall, Hale's Early, Triumph and Wiggins.

January bearing varieties are found in Early Crawford, Elberta, J. H. Hale, Louis Crognet, Mountain Rose, Peregrine, Wright's Early, whilst February and March bearers are represented in Lady Pelmerston, Millicent and Sea Eagle and others.

The canning **Clingstone Peaches** which produce fruit on the average during February are Goodman's Choice, Phillips and Sims, whilst Golden Queen, Pullars and Riverside are March and April bearers.

Pears, which are proving so profitable in the fresh fruit export markets are grown. Recommended export varieties are Beurre Bosc, Duchesse, Glou Morceau, Packhams and Williams Bon Chretien. Other varieties noted were Clapp's Favorite, Howell, Madam Cole and Winter Cole.

Speaking of **Plums**, the Balhannah Nurseries recommend the following as early bearing varieties:—Angelina Burdett, Clyman, Early New Orleans, whilst Diamond, Green Gage, Kirks and Coes' Golden Drop are mid-season varieties.

Other sections of this nursery are devoted to the growing of Grape Vines, Oranges, Lemons, Mandarins, ornamental and flowering deciduous trees. New ground is continually being cleared from virgin timber for the purpose of extending the nursery operations.

The Balhannah Nurseries are conducted by Mr. H. Norman Wicks, who also takes great interest in fruitgrowers' activities in South Australia. The nursery has been established over 50 years.

FRUIT DISPLAY AT SYDNEY ROYAL SHOW.

Three Big Pyramids.

Hail damage and dry weather have been responsible for restricting the Apple pyramids to three entries — Orange, Tallong, and Goulburn. The quality of the fruit, however, was unusually high, and the colors bright and lustrous.

With a ground color of green supplied by the ubiquitous Granny Smith and the patterns picked out in the bright red of Delicious and Jonathan, and the uniform scarlet tone of Rome Beauty as a base, the Apples made a splendid picture. Delicious is outstanding in color, with Jonathan a fit companion.

The high contrast of scarlet and green shows up the designs on the pyramids well. Tallong (last year's winner) has departed from the traditional diamond design, and has woven the figures 1788-1938 in different layers, with a crown on the top. It is a colorful touch, and catches the eye. Apples in this pyramid are particularly good.

Orange has a high-class display, full of color and quality, and a richness in sheen on the Grannies which is delightful.

Goulburn, though badly hit by hail trouble on the eve of picking, and on the point of withdrawing, has a creditable display, and deserves to be complimented on making up the show. Grannies are very good. Rome Beauty has lots of color.

Fewer Pears.

Only two entries appeared in the Pear pyramids, but the fine quality of these more than makes up for any lack of quantity. It is good to see such splendid fruit, uniform in size and full of color and value.

Packhams and Beurre Bosc made up the foundation of the Pear pyramids. They are even in size and color. Orange exhibited Winter Nelis, Josephine, and Winter Cole.

FRUIT FLY TRAPS.

Traps for fruit fly control should be baited with 6 fluid oz. of a lure made up of ½ fluid oz. (one teaspoonful) essence of vanilla, ½ fluid oz. (one tablespoonful) household ammonia, and 26 fluid oz. (three breakfast cups) of water.

Place the traps in Orange, Mandarin, and Grapefruit trees, rather than in Lemon trees. Select the sunny side of the tree, but sheltered by the foliage. Refill the traps with lure only about every fourteen days in cool weather. Put out as many traps as can be conveniently handled with a minimum of one trap to every eight trees

New Zealand News & Notes

(By Our Correspondent.)

AN export season which has been a nightmare to all concerned is now drawing to a close. Subject to boxes being available original estimates will be exceeded. The weather during the past few weeks has been the reverse to ideal for picking. Most of the principal export districts have experienced very heavy rains, which in parts have caused serious flooding. The packing of the late fruit has therefore been delayed and a further delay will occur through the very acute shortage of boxes.

It is quite obvious that in most instances growers under-estimated their crop, ordered boxes accordingly, and now with Sturmers in full swing, very many sheds and individuals are held up, and at the best are working from hand to mouth on their case supply.

The late fruit is of exceptional quality and should pack out fully up to expectations, but to cope with all that is offering it is quite obvious that late shipping will be necessary. The recent cables from overseas advise a very heavy frost in England, so perhaps late fruit will do better than would have been expected if the English crop had been normal.

The shortage of shipping space has been overcome, and although the mid-season delays probably mean over-maturity in a certain quantity of that fruit, this difficulty will not exist for the later varieties which are showing such good keeping quality.

The state of the export market does not make the most optimistic very enthusiastic. Cox Orange Pippin, one of the mainstays of the New Zealand trade, are down as low as 9/- for good quality fruit, so very low prices must be expected for that portion which is reported as wasty and over-mature.

Even the introduction of the quota does not seem to have had the desired effect of reducing quantity available, probably because an opening has been left for fruit from other producing centres.

During the past month compulsory standardisation in connection with fruit for the local markets has been introduced by the Government. All cases publically offered for sale must carry an inspection stamp which is purchased by the grower at 1d. each, the revenue from which is to defray the cost of the inspection. Additional inspectors have been appointed throughout the country, and each line of fruit is inspected before being offered for sale. One thing which growers have not realised is that compulsory standardisation does not eliminate rubbish from the market, and until this is done there is little hope for a payable return on the local markets.

Despite a very concentrated advertising campaign over the air, financed by the Government, the growers' returns are most disappointing. In official circles it is estimated that as compared with last year double the quantity of fruit is being sold internally. While the advertising campaign may have increased consumption 50 per cent., it has been insufficient to avoid a glut. As growers are protected by a Government guarantee of equivalent to 5/2 on rail or F.O.B., the loss is falling entirely on the Government, and it would handsomely pay them to double their advertising efforts to minimise a very heavy liability. The loss to date can be estimated at 3/- a box, and as there will be at least one and a-half million boxes marketed within the Dominion, the cost to the Government will be enormous if prices do not improve. The advertising campaign is good, although in the meantime it is more or less confined to the air. Competitions are being held among school children, and the public are being educated as to the variety of the fruit in season. Every avenue of advertising will have to be exploited if the position is to be improved.

The Government's scheme of controlling the importation of Bananas and citrus fruit is well under way. In the Cook Islands trouble has been experienced with the natives who refused to pack Bananas at the price of 3/6 a box This is probably only a temporary difficulty which will be overcome. It would be wise to defer judgment on the scheme until some better idea is available as to how it is going to operate, but it is quite easy to see that the Government Department responsible are going to have many difficulties to overcome.

In connection with the Orange supply, we understand it is proposed to call tenders in the supplying countries. If these tenders are to embrace a complete season, the tenderers will have to cover themselves substantially for market fluctuations, and there is a distinct liability that New Zealand will be paying a higher price than is really necessary. The tender system may have its advantages, but on a fluctuating commodity like fruit, it has many disadvantages. For the Government and the public to be properly protected, there will have to be a fairly severe penalty clause in any contract completed. Once again it would be wise to defer judgment until all details are known.

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Vegetable Culture

HOURS AND WORKING CONDITIONS — NICOTINE DUST AND LIME FOR APHIS CONTROL — CULTURAL HINTS FOR SILVER SKIN ONIONS.

(By Our Correspondent.)

During the past few weeks there has been considerable discussion among vegetable growers regarding the hours and conditions worked in the industry.

When the recent move was made by the employers it was hoped by the Master Vegetable Growers that a working agreement would be the outcome of the negotiations, but the proposal that the area to be covered by the Wages Award should be a radius of twenty miles from the Melbourne General Post Office, was not acceptable to Master Vegetable Growers, and it seems that the alternative proposed, that the area to be covered by the Award should be the whole of the State of Victoria, is not acceptable to the Government, so that no finality has as yet been reached, but quite a number of the leading vegetable growers feel that the hours as worked now are too long.

Some growers work from seven a.m. to six p.m., with one hour for lunch, others are working from seven-thirty a.m. to six o'clock p.m., and others again are working from seven-thirty a.m. to five-thirty p.m. Even at this rate of time it means that men work fory-nine and a half hours per week, when industry generally is moving towards a forty-hour week, and though it may not be practicable for men on the land to work such a short week as this, there is no justification for the exceptionally long hours as worked in many vegetable growing gardens to-day.

It is thought that by several of the leading growers agreeing among themselves to some uniform time of working, the very fact of this influence on the industry will be sufficient to bring about the desired result. It is not as though there is any shortage of vegetables, but oftentimes the very produce that has been produced by watering into all hours of the night, is unsaleable, and so in the present disorganised state we are simply producing an abundance of produce, which has no profitable market.

The idea of establishing a Marketing Board has been mooted, but from experience, marketing boards only aggravate the situation, for in this wonderful country, which will grow almost anything, just as soon as any one industry becomes more profitable than others, so men turn to producing this line of produce, and eventually instead of creating a better price, you find that your production has increased enormously, with no corresponding increase in the population to use up the surplus which has been created. If it is left to private enterprise to produce whatever is found profitable under working conditions, which are in keeping with the rest of the State's population, we still have the idea of supply and demand, with conditions of production being the controlling factor.

Pest Control.

Aphis in almost all classes of vegetables is likely to be in plague form during this period of the year until such time as the weather gets really cold, and even then if a crop has been allowed to become badly affected. This pest will stop in the inner leaves for several weeks. The first sign of this blight coming about is usually when you find small black flies about the size of a mosquito flying about in the foliage; then a dewy night and warm day seem to be the ideal conditions for the blight to increase.

At the first signs of this pest, an application of Nico Dust or Pestend and lime should be given, or, if a moist spray is used, Black Leaf 40 is quite serviceable, but the powder dust is the most effective, as it floats all through the leaves when applied on a calm day.

If Pestend and lime are used, two-thirds of Pestend and one-third of live lime should be thoroughly mixed and applied on a dewy morning. It is essential that the crop be damp when this is applied, otherwise the mixture drops right through the leaves, and there is no moisture to work the nicotine, but if a wet spray of Black Leaf 40 is used, the drier the crop is the better; this wet spray however, does not seem nearly so effective as the other, for if the spray does not actually touch the Blight there is very little good that can result, and there are no fumes such as are to be had from a powder.

The crop should also be dry when powder is applied. It is of such a fine nature that it will adhere to the leaves when they are totally dry.

Silver Skin Onions should now be planted out of the bed into land which has been well prepared. A sandy or light soil is by far the best for this class of Onion. It will very seldom thrive on heavy soils or clay.

When planting out great care should be taken with this crop to see that the earth is tightened to the roots; the best way to test the tightness of the land is to gently pull the plant just after it has been planted. If it simply pulls straight out of the ground it is a sure sign that sufficient tightening has not been done, but, on the other hand, if there is a resistance when the plant is pulled, it means that the earth is tight round the roots. When the weather is inclined to be dry this tightening is of tremendous value in striking the plant, and you will often find that a plant which has not been tightened will just wither away, while one alongside, which has been properly planted, will stand up firm and grow rapidly.

This crop should not be too heavily manured for a start, but after being Dutch hoed for the first time a hay rake dragged across the land on the angle will loosen all the land between the plants and kill the young weeds. Then, when the plant has struck a good root, a dressing of some artificial manure is of great value and will set the crop off.

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POTATOES IN N.S.W.

Crops Light to Medium.

Owing to lack of sufficient rainfall during the growing period, Potato crops in N.S.W., acording to official advices, are expected to be only light to medium.

Some growers commenced marketing earlier sown crops in March, but digging is expected to be in full swing in many localities towards the end of April.

Dry weather has substantially reduced Potato crops at Batlow. Unfortunately, too, there is heavy grub infestation.

VICTORIAN POTATO CROP.

Dry Weather Reduces Crop.

126,000 Tons Expected.

IN Victoria the acreage under Potatoes for the current season is officially estimated at 42,000 acres, compared with 45,627 acres planted in 1936-37. Excessively dry conditions during March adversely affected the late crop, which is not expected to yield up to average. The recent rains may only have the effect of producing second growth, with a consequent spoiling of the sample. In certain areas, such as the Gippsland hill country and the Western district, the crops are fair to good, but most of the State has been subjected to conditions too dry to permit a good yield.

The Department of Agriculture reports considerable "grub" damage, which will reduce the marketable tonnage. It is difficult to give an estimate of the aggregate yield of the crop, but reports indicate that it will be below normal, the average being at present estimated at approximately three tons per acre, giving a total estimated yield of approximately 126,000 tons.

During March prices ranged from £7/10/- to £6 for prime quality. The quantity of stocks carried over is very small, as growers are taking advantage of a favorable market.

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CAULIFLOWER CULTURE.

Seed selection in N.S.W. has improved strains of Cauliflowers. The leading variety is "Nugget," a four-months Cauliflower producing even-sized heads. Other valuable varieties are Hawkesbury Solid White (matures in 4 to 4½ months), Five Months Long Leaf, and Mitchell (matures in 5 months). For cold districts the 6 months type is suitable, of which the two main sorts are short and long-leaved types.

VEGETABLE CULTURE.

Electricity v. Steam in Glasshouses —Growing Crops in Liquid.

IN THE OPINION of Mr. J. Douglass, Special Instructor, N.S.W. Dept. of Agriculture, it is not expected that electricity will replace hot water and steam methods in glasshouses at present, owing to the cost. As regards application of heat to the soil by resistant cables, although remarkable results have been achieved in Norway and Sweden, tests in Australia have not proved payable, owing to the fact that the soil temperatures here in commercial glasshouses are quite high enough to grow such crops as Tomatoes normally. Heat was usually applied by manure hot beds and hot air and water pipes. Electric cables, however, should give a much more reliable, uniform heat in seedling frames.

If the growing of vegetable **crops in nutrient solutions** ever becomes a commercial proposition, the use of electric resistant cables is a practical idea, as one of the most important points is to maintain even liquid temperatures. Judging by present costs, however, a more economical proposition would be the heating of large tanks by steam or hot water.

DEAR VEGETABLES IN CANBERRA.

Canberra (F.C.T.), is apparently a most expensive city in which to reside, judging by the ruling prices for vegetables in March.

Carrots cost threepence each, and fresh Lettuces anything from eightpence to a shilling a piece. Beans were tenpence and elevenpence per lb., and Cauliflowers 1/6 each.

Victorian Fruit Crops

Report on Horticultural Conditions for Month of April, 1938

THE DRY WEATHER continued until the middle of April, when wind storms at Easter caused a heavy fall of unpicked late varieties of Apples. In the Mornington Peninsula, Granny Smith and Rome Beauty varieties suffered most. In the Red Hill district watercore occurred in Granny Smith, Rokewood, Democrat and Statesman varieties. The harvesting of Apples in the majority of districts was completed except for a few late varieties. Generally speaking the fruit was of good quality and color, but some growers experienced heavy codling moth infestation which reduced the marketable crop. Codling moth was particularly severe during the latter part of the season.

In the Harcourt district many trees have suffered from the dry Summer. Late varieties in the Horsham district are packing out better than was expected. The fruit is of very even size, good color and free from disease. In the North-east wind storms have caused a loss of probably one-third of the crop of the late varieties. Despite dry conditions, the quality of the fruit is very good.

The harvesting of **Pears** was completed and in some districts the crop was lighter than anticipated. Export varieties in the Goulburn Valley districts were of good quality, and less infected with codling moth than the W.B.C. earlier in the season.

Inspection of Pears for export indicates that further improvement in the handling of Josephines is desirable to eliminate skin markings in this very tender variety.

Apricot trees commenced to defoliate much earlier this season, due, probably, to the continued dry weather, but bud development has been good and indications are that trees should blossom well next Spring.

Oriental Peach moth was less prevalent in the Late Cling Peaches than in previous years.

The yield of **Almonds** in the Horsham district was good, but recent rain may discolor some crops not yet harvested. In the North-east the bulk of the Almond crop was of poor quality, particularly where growers failed to cultivate early in the season. Insufficient rainfall was a contributory factor.

Citrus groves in the North-east have suffered from the drought conditions and numerous trees are practically defoliated. This will interfere with the normal development of this season's crop. Late broods of red scale have been heavy and growers have applied a second oil spray to cope with this pest.

Many growers refrained from marketing **Late Valencia Oranges** until April, in the hope of receiving higher prices, but such fruit had deteriorated in quality, and prices realised were not always up to expectations. Much better results would have been obtained if the fruit had been marketed during February and March when it still retained its quality

Early **Navel Oranges** from the Mildura district were submitted to the ethylene gas coloring process, but fruit picked early in the month did not attain a good color. Some growers attempted to market small sizes of Thompson's Navel Oranges.

It would have been a much better practice if growers had picked only fruit of 126 count and larger, and allowed the smaller fruit to develop on the tree.

The early Navel Oranges met with competition from Valencia Late Oranges, on the market, and although the Navel Orange this season matured earlier than normal, the absence of a good color had its effect on sales. Some growers have picked Grapefruit and submitted it to the coloring process with satisfactory results, although the flavor of the fruit was not well developed.

In the Gippsland area good crops of **Lemons** have developed, and heavy crops of **Passionfruit** have been picked.

The dry season has delayed **Autumn cultivation** and ploughing, but in districts where sufficient rain fell, growers have commenced to clean up their orchards.

Weather conditions throughout the harvesting period proved ideal this season for the processing of all the products of the vineyard.

In the drying areas **the cold dip** continued to gain popularity, and it is hoped that it will eventually be adopted by all growers as Sultanas processed by this method do not deteriorate in storage to the same extent as does fruit processed in any other manner. A few growers still use the hot caustic soda dip. Fruit processed in this dip looks alright when taken to the packing shed, but it quickly loses color and becomes sticky and sugary in storage. The mixed dip was a great improvement on the dips in general use fifteen years ago, but the cold dip is steadily superseding it. Most of the objections to the cold dip are based upon its slower drying rate, in good drying weather, than the mixed dip. In wet or humid weather, the drying rate is retarded in all cases, but to a lesser extent if the grapes have been cold dipped. The same statement holds good in the case of mould development. Numerous storage trials have constantly shown that the keeping quality of cold dipped fruit is superior to that produced by other means.

Winemaking started under somewhat hot and unfavorable conditions, but weather conditions soon moderated and the problem of high fermentation temperatures disappeared proportionally. One notable feature of this vintage was the fairly general adoption of the use of liquid sulphur dioxide in lieu of potassium metabisulphite.

In the non-irrigated areas, the advantage of supering the vineyards in Autumn, to encourage the growth of natural herbage might reasonably be considered.

(Selected) Passion Fruit Seed, 1 lb., 5/-; ½ lb., 2/9; ¼ lb., 1/6.
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Dried Fruits Notes

BOARD EMPHASISES DANGER OF OVER-PRODUCTION

Voluntary Agreement on Export

IN ITS REPORT for the year 1937, the Victorian Dried Fruits Board laid special emphasis on the need for caution in the expansion of the industry's production. Eighty per cent. of the output must be marketed abroad in competition with fruit from other countries where wages and other production costs are lower, and therefore the problem of disposing of Australia's surplus production is one that has to be faced year after year.

The Board contends that if the tonnage is increased it will become almost impossible to sell the extra quantity. Because of this, State Governments had up to the present discouraged any further planting of vine fruits until new markets had been secured. This policy had been reaffirmed frequently since 1924. It was feared now, however, that attempts were being made to undermine this policy. Victoria, South Australia and New South Wales growers were vitally concerned in this matter, and encouragement to increased planting in one State must lead to similar action by the others, with consequences detrimental to the industry.

The Board emphasises that it is not desired to establish a monopoly in the growing of dried vine fruits, but points out that the repercussions from further plantings, whether under Government or private enterprise, would be disastrous unless preceded by a concerted plan to secure new markets.

During the year 43,802 tons of Victorian dried fruits were harvested, processed and packed in Victoria, in addition to which 4,775 tons of fruit grown in N.S.W. were packed in Victoria.

Production included 31,725 tons of Sultanas, 7,271 tons of Currants, 4,099 tons of Lexias and 614 tons of Prunes. Australian sales totalled 8,079 tons.

Of the 34,716 tons of fruit exported overseas, 26,280 tons were Sultanas, 5,740 tons were Currants, and 2,524 tons were Lexias.

The United Kingdom imported 18,857 tons, Canada 11,851 tons and New Zealand 3,287 tons.

Exterior view of the Irymple Packing Coy.'s shed at Merbein, Vic.

Referring to the industry's organisation, the report deals with the effects of the Privy Council decision in the James case, which caused considerable concern during the year. To prevent the chaos that threatened, a voluntary agreement was made whereby dealers and agents undertook not to sell within Australia more than the quota determined upon by the State Fruit Board for sale in their particular State.

The Board expresses gratification that, generally speaking, the agreement worked satisfactorily during the year, although several small dealers and agents violated its provisions.

The report points out that under a voluntary agreement the non-signatory is able to obtain an undue advantage over the signatory who adheres to the agreement. For this and other reasons it is recognised that a voluntary agreement of this nature can be regarded merely as a temporary expedient, and the interests of industry can only be adequately safeguarded by the early introduction of an appropriate statutory system of control.

SOUTH AUSTRALIAN DRIED FRUITS BOARD.

The personnel of the South Australian Dried Fruits Board remained as before after the recent elections. There were three candidates for two seats, viz., Messrs. J. B. Murdoch (Waikerie), C. W. Till (Barmera), and E. N. Searcy. The two first mentioned (sitting members) were returned. Mr. C. E. Russell, for the non-irrigated areas, was returned unopposed. The Chairman, Mr. G. A. W. Pope, and Mr. Hugh Crawford are the Government's appointees.

Do not give a heavy dressing of lime immediately after ploughing under a cover crop, advised Dr. E. Meier at Ranmark recently.

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Dried Fruit Notes

(Continued)

Market Prices of Dried Fruit Blocks

No Justification for Boom Figures.

DURING the past two years many vine blocks in the Mildura district have changed hands at high figures. It is not suggested that a boom is taking place, because in some instances there are special circumstances that justify the purchasers in paying considerably more than would be regarded by others as the real value, but it does seem advisable to sound a note of warning on this subject of vineyard values.

It would not be to the lasting advantage of anyone in the industry if a boom in land values occurred. The feverish speculation period from 1919 to 1921 in Mildura, had a sad aftermath in which a number of pioneer growers were ruined and many newcomers to the district lost heavily. It took years to straighten out the financial tangles that followed the drop in the value of dried fruits. Few growers of that time will have forgotten the fact that the banks so completely lost confidence in the industry that even an unencumbered block was not an acceptable security for even the smallest loan.

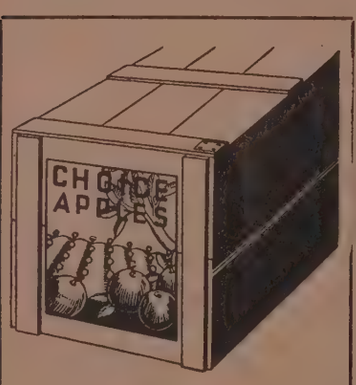
For several years the dried fruits industry, particularly in the Mildura district, struggled back to solvency. It is well to recall that period in the industry's history in order that it may serve as a warning against any undue inflation of land values in the future.

People are apt to be carried away by reports of sales at unusually high prices, forgetting that favorable conditions justifying these prices are liable to change suddenly. For example, the past season has been an ideal one, both for the growing and the drying of vine fruits, and heavy tonnages of good quality have been the result. If, as is hoped, the overseas market is maintained at its present level, or is improved, growers and would-be growers are apt to set a higher value on a fruit-block, ignoring the historical fact that such ideal seasons are of very rare occurrence. There is the further contingency that values may not be maintained or improved, in which case the return from the crop will be little better than normal instead of being exceptionally good.

The almost total absence of fungoid diseases—with the exception of oidium—in the vineyards this year is not the slightest indication of future immunity. On several occasions during the Summer the Mildura district narrowly escaped sufferng severe damage from hail and rain. Such good fortune throughout a whole season is rare. The unavoidable risks of production are serious in all years, and should in themselves serve as a brake on the super-optimism that would cause a boom in land values.

The dried fruits industry is safe in itself, but that favorable position in which most of the growers stand today can be maintained only by continuing along the sound lines followed during recent years. There must be no over-capitalisation of blocks; there must be **strong and efficient organisation** all the time to protect the industry; apart from preventing cut-throat competition between growers, packers and agents, that organisation has equally important work to do in striving for the maintenance of the sheltered markets it has gained.

For so long as the growers stand together for their common good, so long will their fruit-blocks be an asset to them, but no circumstances of the present time justify any substantial increase in the value of blocks generally, and it is extremely unlikely that such circumstances will arise.



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Canned Fruit News

PARTICULARS of the exports of canned fruits from Australia to various destinations from the commencement of the season (January 1) to March 31, 1938, are advised by the Canned Fruits Control Board as follows:—

Country.	Apricots. Cases.	Peaches. Cases.	Pears. Cases.	Fruit Salad. Cases.	Pine-apples. Cases.	Total. Cases.
U.K.	48,783	123,621	114,781	255	4,370	291,810
N.Z.	3,203	5,607	1,124	—	814	10,748
Canada	—	—	—	—	4,165	4,165
East	651	1,998	1,526	225	1	4,401
Misc.	261	327	528	26	34	1,176
Total	52,898	131,553	117,959	506	9,384	312,300

CANNED PEACHES.

1938 Season's Pack.

FROM returns furnished to the Canned Fruits Control Board by canners in the various States it has been ascertained that the following quantities of canned Peaches were processed in Australia during the 1938 season as follows:—

Canned Peaches—Halves.	Cases. On basis of 2 doz. 30 oz. cans per case.
Export Pack:	
Choice	56,909
Standard	554,432
Seconds	174,960
Solid Pack	7,179
Domestic Pack:	
Standard	203,015
Totals	996,495

Canned Peaches—Sliced.	Cases. On basis of 2 doz. 30 oz. cans per case.
Export Pack:	
Choice	45,410
Standard	455,394
Seconds	130,934
Domestic Pack:	
Standard	162,509
Totals	794,247

GOULBURN VALLEY NOTES.

THE Goulburn canneries finished canning operations at the end of the second week in April.

The past season was a record in quantity of tons canned, especially in Peaches, and the quality of the pack is excellent. This, combined with the bulk of the pack being sold overseas, places the fruit canning industry in a favorable position.

The season has been exceptionally dry and hot. This has had an adverse effect on the trees, and the fruiting wood for next season's crop—which in all probability will be light to medium.

EMPIRE PRODUCERS' CONFERENCE.

There were large attendances at the several sessions of the Empire Producers' Conference held at Sydney at the end of March and early April. It is felt that as a result of the discussion, a better understanding exists regarding the problems which are awaiting solution. The Apple and Pear Council was represented by its Vice-President, Mr. J. H. Astell. The Council was congratulated by overseas delegates on its form of organisation and successes achieved to date.

Moderate crops of Navels and Valencias are showing on the Murrumbidgee Irrigation Areas, N.S.W.

ARE YOU GRUBBING?

Previous experience had convinced me that to be really efficient a grubbing machine should have ample power and ropes that will meet the heavy demands required of them. I found that shovel and axe work is very costly either by itself or in conjunction with a machine. The machine that offered these features, with a host of others, was THE "MONKEY" GRUBBER.

It gave me the power of 360 pairs of hands in a simple and compact form; the lever is short, so that I am able to stand firm-footed and get the full stroke. There are two speeds in the machine, as well as an automatic release that allows me to let off a strain, or as the machine will work in any position, it comes in for all jobs that would require a chain block. It is taken to the job on a pair of wheels like a barn truck, and is rigged for work in a few minutes. The ropes are in lengths that I find easy to handle, and each one is fitted with hook and loop couplings, so simple and absolutely IT for effectiveness. "The makers have included a sturdy snatch block with a novel method of securing to the ropes, and also a fine type of firm gripping rope shortener. The latter makes it very easy to accommodate the lengths of rope to the tree or stump being pulled, and is quickly released from the rope. The combination of so many time and labor saving features makes the "Monkey" Grubber a superior grubbing outfit.

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Export & Commercial News

Commercial and Industrial Pageant

New South Wales Chamber of Fruit and Vegetable Industrial Float.

(See Illustration on Front Cover.)

IT is very fitting that the fruit and vegetable industries should be represented in Australia's 150th Anniversary Celebrations, as these industries began with the arrival of Captain Phillip.

Realising this, the New South Wales Chamber of Fruit and Vegetables Industries, which since its inception has always taken a leading part in all matters affecting the industries, decided to enter a float in the Commercial and Industrial Pageant.

Substantial support was offered by the Australian Apple and Pear Export Council which is most interested in increasing the demand for Apples and Pears, while support was also given by a number of leading growers in the Orange District through their organisation, the Orange Producers' Rural Co-operative Society, by Niagara Park Growers Ltd., by the Committee of Direction of Fruit Marketing, Queensland, and by a number of the leading agents in the Sydney markets.

The two industries concerned are amongst the most important in the State, and create more employment per acre than any other primary industry, as well as being large contributors to the revenue of the Government Railways and the various shipping companies engaged in either bringing the produce of the industries to the local market or transporting it overseas.

It is not generally known that Sydney Market (by far the most important in Australia) receives more than 12,000,000 packages of fruit and vegetables annually from all States in Australia, while over £3,000,000 passes through the hands of the agents in that market during the twelve months.

What a tremendous growth from the few fruit trees and packets of vegetable seeds landed from Captain Phillip's ships and all in the space of 150 years.

Too much emphasis cannot be laid on the importance of fruit and vegetables in the diet of the nation.

They are nature's tonic and no diet can be balanced without them. Much more educational publicity is necessary to bring this fact before our people, and this must be done by the growers.

Fruit and vegetables are never dear when their healthful value is considered and no article of food of equal health value can be purchased as cheap as fruit and vegetables.

If more were eaten the nation's bill for hospitals and medical attention would shrink correspondingly.

It is perfectly true that if the money now being invested in the State Lottery were spent on fruit and vegetables there would be a large number of vacant beds in the hospitals, instead of a long waiting list of patients.

The Float itself is attractive, displaying all fruits and vegetables at present in season, and with three slogans:—

1. Buy health.
2. Health is wealth, fruit is both.
3. Fruit and vegetables are essential for a balanced diet.

A large Apple and Pear are prominent on each side of the front portion of the float, with a collection of vegetables stacked in between them, while artistic posters are shown on each side of the rear portion.

Over fifty cases of fruit are included, and twenty of these have the lids removed, displaying their appetising contents. All the cases have attractive labels and include some of the best-known brands in the trade.

To give action a hopper with an elevator attached is placed on a raised platform in the centre of the float, and this elevator conveys Apples to a bin from which a packer is packing during the procession.

Around the outside of the float a large variety of vegetables is displayed.

A bucket of cold water containing a slice of Lemon and a piece of camphor will entirely take away the smell from a newly-painted room, if left in the room for 24 hours.

Apple and Pear Exports, 1938

THE EXPORTS of Apples and Pears from Australia for the three months ended March 31, 1938, together with comparative figures for the previous year, compiled by the Department of Commerce, are shown in the following summaries:—

APPLE EXPORTS—JANUARY TO MARCH.

Exporting States.	To the United Kingdom. Cases.	To the Continent. Cases.	Other Destinations. Cases.	Total. 1938. Cases.	Total. 1937. Cases.
N.S.W.	51,140	1,391	7,561	60,092	61,686
Vic.	234,781	15,799	3,605	253,585	334,869
Q'ld.	20,509	—	12,685	33,194	23,503
S.A.	244,217	139,458	7,903	391,578	134,840
W.A.	97,753	109,747	17,478	224,978	287,029
Tas.	935,896	64,949	5,823	1,006,668	898,152
Total, 1938	1,584,296	331,344	54,455	1,970,095	—
Total, 1937	1,440,925	235,801	63,353	—	1,740,079

In comparison with 1937, the total exports for the period January to March, 1938, show an increase of 230,016 cases, represented by increases in shipments to the United Kingdom and the Continent by 143,371 cases and 95,543 cases respectively, and a decrease to other destinations by 8,898 cases. The States showing increased shipments are: — South Australia, 256,738 cases; Tasmania, 108,516 cases; and Queensland, 9,691 cases, while exports from Victoria are 81,284 cases lower and from Western Australia 62,051 cases.

PEAR EXPORTS—JANUARY TO MARCH.

Exporting States.	To the United Kingdom. Cases.	To the Continent. Cases.	Other Destinations. Cases.	Total. 1938. Cases.	Total. 1937. Cases.
N.S.W.	14,943	—	7,305	22,248	20,914
Vic.	134,053	9,040	2,980	146,073	179,655
Q'ld.	—	—	143	143	—
S.A.	29,474	—	723	30,197	45,340
W.A.	9,687	6,611	980	17,278	24,047
Tasmania	59,885	—	100	59,985	72,647
Total, 1938	248,042	15,651	12,231	275,924	—
Total, 1937	323,581	6,316	12,706	—	342,603

Pear exports show a decline of 66,679 cases in comparison with 1937, the United Kingdom exports being 75,539 cases less, but exports to the Continent showing an increase of 9,335 cases.

It will be observed that all States, with the exception of New South Wales and Queensland, show appreciable reductions in quantities shipped during the first three months of the present season. The figures are: — Victoria, 33,582 cases; South Australia, 15,143 cases; Western Australia, 6,769 cases, and Tasmania 12,662 cases.

Because of the attacks by Codling Moths on Quinces, at Renmark, South Australia, when other fruits are sprayed, it has become necessary to spray Quinces. A clean-up of neglected Quince trees is necessary.

GREAT DAMAGE BY FROST.

Crops Affected in U.K. and on The Continent.

Effect on Australian Products.

Apple and Pear Prices Improve.

AT the end of April a frost of extreme intensity was reported to have affected orchards and vineyards in the United Kingdom and on the Continent. The French wine-growing districts suffered severely, and the latest estimate is that the vintage this year will be 15,000,000 gallons short of what was expected before the frost. As the total French output of wine for the season was estimated at a normal crop of 150,000,000 gallons, the loss cannot be regarded as heavy, or one that is likely to have an effect upon the price of Australian wines. According to authorities on the subject, the only result will be a slight increase in the prices of 1938 champagne and other high-grade wines, which will not be marketed for several years. A large proportion of this year's loss is represented by the light wines that form the daily beverage of people. Spreading the loss over the beverage and the sparkling wines, it is apparent that the Australian industry will not be called upon to make up any deficiency.

Apple Prices Improve.

So great has been damage in the Apple orchards of Great Britain as a result of frost that Australian Apples arriving a week later met with a keen demand at prices higher than those recently prevailing. A consignment on the Tuscan, arriving from Victoria on April 23, sold readily. Jonathans realised 8/6 to 11/3 a case; Cleopatras 10/- to 11/3; Cox's 9/6 to 11/.

A consignment ex "Themistocles" from Western Australia sold as follows:—Cleopatras 9/- to 11/-, Jonathans 10/-, Dun's 9/6 to 10/6.

The "Tuscan Star," from South Australia and Tasmania, carried Apples that were eagerly sought at prices similar to those from Victoria and W.A.

Pears from Victoria, ex "Tuscan Star," were sold as follows: —Boscs 11/6 to 15/-, Packhams 14/- to 16/3, Josephines 13/3 to 14/3.

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PORT OF LIVERPOOL.

Mr. H. W. Richards, Sydney, Appointed Australian Representative.

The Traffic Committee of the Mersey Docks and Harbor Board announces that in pursuance of their policy to attract more Dominion trade to Liverpool, they have appointed Mr. H. W. Richards, of Sydney, as their representative in Australia. Mr. Richards is a well-known business man, with wide connections in shipping and commercial circles, having acted as shipping manager for Dalgety & Co. Ltd. for many years.

He is a local director in Australia of George Thompson & Co. Ltd., who represent the Aberdeen and Commonwealth Line, and is also on the Board of the Great Northern Stevedoring Company.

The trade between Australia and Liverpool has shown a satisfactory increase during the last 10 years, but it is felt with confidence that a still greater growth will be secured by the efforts of Mr. Richards, who has had so long an experience in the Australian trade, and is so well-known throughout the Dominion.

SOFT FRUIT EXPORT.

Success with Experimental Shipments.

Mr. F. Payne, a director of the Elgin Gas Corporation, Sydney, recently passed through Melbourne on the "Narkunda." He stated that the commercial shipment per "Brisbane Star" of 3,000 trays of Peaches, Cherries, Apricots, and Plums arrived in satisfactory order and sold well. Tests were still needed as to specific varieties best suited for export. The trade was capable of considerable expansion. By steady developments a trade worth between £3,000,000 and £5,000,000 could be attained. Pineapples had also carried well. All the fruits had held up satisfactorily, leaving ample time for retail marketing to the public. Continuing, Mr. Payne said the fruit was conveyed in chambers under a special gas (CO_2) system. Further quantities of soft fruits including Bananas in bunches, would be exported by arrangement. The special air process was also suitable for meat export, and big developments could be expected.

DRIED FRUIT PRICES.

New Currants Open at Better Rates.

West Australian Currants, the first of new season's crop to be sold in London, were quoted at 35/- to 36/- per cwt. for small; 37/- to 39/- for medium, and 39/- to 42/- for bold.

Sultanas, old crop (of which only a small tonnage remains) are quoted at 35/- to 40/-.

New crop dried Apricots, three-crown, are quoted at 60/- per cwt. and four-crown at 75/-.

Because of the statistical position of Currants (large supplies have been available from Greece), the price of this fruit has been very disappointing to Australian growers during the past three years. Any advance is welcome. The new season's Sultanas do not really test the U.K. market until the first week in May. Owing to the absence of Spanish competition, Australian growers of Lexias have been receiving very good prices, which are likely to continue until Spain settles down again to the production of superlative Lexias.—W.B.H.

After twelve years of freedom from control, the Otago district has now petitioned to come into line with the rest of the Dominion, and will come under control in 1938.

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Are now paying a Bonus of 10% on all Commissions charged to regular clients of the Fruit & Vegetable Section for year ending Sept., 1935

Send Your Consignments TO US

MELBOURNE & SYDNEY.

The Better Breakfast

Fruit Juices and Dried Fruit Instead of Cereals.

THE HOME ECONOMICS Department, U.S.A., has recently completed exhaustive investigations into the relative food values of the popular breakfast foods of the people. The results will be of more than ordinary interest to Australians.

Not Sufficiently Sustaining.

The general conclusion was that the Orange juice and coffee breakfast habit resulted in a definite loss of energy, involving lowered physical and mental efficiency during the later part of the morning. It was revealed that many persons who had realised this still refrained from adding cereals because they did not like grain foods without cream and sugar, which were considered too fattening.

A Doctor's Comments.

Dr. Clifford Barborka, of the Chicago Medical School, is very frank in his comments on what he terms "stupid fads" inaugurated by "self-styled experts." After tearing to shreds many common fallacies regarding the acid-forming properties of various foods, Dr. Barborka commends the use of citrus juices, but deplores the substitution of other foods for dried fruits. He says:—

"The whole country went mad about citrus juices. That was the start of the period which may well be thought of as the period when Prunes and other stewed fruits started being pushed from the breakfast table. During the first few years of that surge, the dried fruit industry professed not to see it. They thought, 'It won't amount to anything; in the course of time people will come back to eating good, solid food for breakfast.' But the whole world changed, changed tremendously. Economic factors changed; working days were shortened; styles in human contour changed. It was fashionable to be skinny, and it still is, to a certain extent, and most everybody knew that they could drink fruit juice all day without putting on any fat. So it grew gradually until to-day most of it is drunk probably because it is pleasing, and otherwise blindly. It has just become a habit, and that habit is not good for dried fruits."

The Doctor's Remedy.

Dr. Barborka does not content himself with a remorseless dissection of the people's food fads. He suggests a remedy for them in the following terms:—

"We have a story greater than any fruit story ever told. We are telling it as often as we can, and in as many places as we can with limited funds. I believe that with this great story, if the growers themselves would take a dollar or so a ton off their returns for fruit for a period of five years, to be expended in judicious advertising, and carry on and build up from the foundations which have been laid by the activities of the Dried Fruit Research Institute, there would be no dried fruit problem at the end of three years, regardless of the size of the crops."

Of Interest to Australia.

The opinion thus expressed is of especial interest to the dried fruits growers of Australia, where the industry has for several years been obtaining good results from sustained publicity. "It pays to advertise" is an accepted axiom of the business world, and undoubtedly the future stability of the industry here is dependent to some extent upon the maintenance of judicious expenditure on publicity.

EXPORT OF ORANGES - 1937

THE EXPORTS OF ORANGES from Australia for the twelve months ended December 31, 1937, totalled 358,105 cases to all destinations, a substantial increase of 126,207 cases over the previous year, in which 231,898 cases were exported.

The tables which follow summarise the particulars in respect of the past two seasons.

EXPORTS FOR 1937. (Figures in Export Cases).

Destinations.	N.S.W.	Vic.	S.A.	W.A.	Total.
United Kingdom	5,325	739	27,479	1	33,544
Canada	20,890	—	1	—	20,891
New Zealand	56,143	26,848	186,820	—	269,811
Eastern	21,362	4,396	1,021	2,879	29,658
Other	2,824	1,206	131	40	4,201
Total	106,544	33,189	215,452	2,920	358,105

EXPORTS FOR 1936. (Figures in Export Cases).

Destinations.	N.S.W.	Vic.	S.A.	W.A.	Total.
United Kingdom	33,867	1,812	21,344	285	57,308
Canada	2,664	—	2,001	—	4,665
New Zealand	9,767	3,238	139,936	—	152,941
Eastern	9,892	1,047	689	1,605	*12,698
Other	2,831	1,218	77	160	4,286
Total	59,021	7,315	164,047	1,510	*231,898

*Includes Queensland—5 cases.

Increased authorisation by the N.Z. Government of imports from S. Australia during 1937 and an extension of the period in which fruit could be exported from Victoria and fly-free areas in N.S.W., without restriction as to quantity, resulted in an expansion in the shipments to the Dominion to the extent of 116,870 cases, as compared with 1936.

A sharp decline is reflected in the exports to U.K., 1937 shipments being 23,764 cases less than in the previous twelve months. However, this has been more than offset by an increase of 16,226 cases in exports to Canada and 16,960 cases to the Straits Settlements, Netherlands East Indies and other Eastern destinations.

In comparison with 1936, the exporting States show the following increases in 1937:—N.S.W., 47,523 cases; Vic., 25,874 cases; S.A., 51,405 cases and W.A. 1,410 cases.

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The Victorian Fruit Marketing Association

The monthly meeting of the Executive of the V.F.M.A. was held at the Board Room, Commercial Travellers' Association, Melbourne, on Tuesday, April 5, 1938, at 10.30 a.m.

There were Present—Messrs. G. W. Brown (President), W. H. Carne (Vice-President), H. J. Noonan, S. Brown, C. Douglas, H. M. McLean, W. P. Hutchinson, F. R. Mellor, J. J. Tully, F. Moore, R. A. W. Bailey, K. Weeding, W. A. Thiele, F. Petty, J. M. Ward (Superintendent of Horticulture), R. E. Boardman (Secretary).

Cool Storage Space.

The Chairman reported on the official opening on 4th instant of the Metro Ice Works at Yarra Bank-road, South Melbourne, where substantial fruit storage space was provided. There had been a loss of 600,000 cubic ft. of cool storage space at the burned Victoria Dock Cool Stores. Private enterprise had now made good this deficit.

Saturday Afternoon Closing.

Mr. E. W. Thompson (Secretary, Retail Fruiterers' Association) attended by request, and stated that the closing of retail fruit shops on Saturday afternoon in Winter had benefited the shopkeepers with no inconvenience to the public nor less loss to producers. So far the Association had not considered the matter of a petition for Saturday afternoon closing throughout the year, though it was known that a lessening of the hours on Saturdays was favored.

Trade With the East.

The Australian Apple and Pear Council wrote enclosing copy of letter from the Commerce Department, stating their Eastern Trade section favored only the c.i.f. business as opposed to fruit going forward on consignment; pool arrangements were proposed and the question was raised as to the advisability of sending lower grades for the native population.

Mr. Weeding reported that the Apple and Pear Council's Eastern Trade Committee strongly favored only the c.i.f. business as unregulated consignments caused confusion and loss. Pool arrangements would not be possible. The trade could be regulated by the Commerce Department issuing export permits only where exporters produced actual orders for the fruit accompanied by letters of credit. The sending of lower grade fruit for the native population was strongly opposed, as even if the fruit were supplied gratis, the freight and other expenses would place the fruit beyond the reach of the native population. The Eastern Trade, though relatively small, was well worth cultivating on sound lines.

Railway Trucks.

Mr. S. Brown reported great improvement in floors of railway trucks.

Mr. R. Bailey, referring to rejection of fruit at ship's side for slack packing, expressed the view that damage was probably caused in rail transit.

Mr. Tully and Mr. Weeding referred to probable damage caused by new automatic coupling and excessive shunting in congested railway yards.

Mr. Ward spoke of rough handlings in picking and packing at orchards.

Mr. Moore directed attention to rough handling at interstate wharves.

A meeting of the Executive of the V.F.M.A. was held in the Board Room of the C.T.A., Melbourne, on Wednesday, April 13, 1938, at 10.30 a.m.

There were present:—Messrs. G. W. Brown (President), W. H. Carne (Vice-President), F. Moore, F. R. Mellor, G. Douglas, H. M. McLean, S. Brown, G. H. Sprague, R. A. W. Bailey, J. J. Tully, R. E. Boardman (Secretary). Apologies were received from Messrs. Weeding, Hutchinson, Noonan, and Eagle.

Storemen and Packers' Union.

The Chairman reported that the sub-committee had met Mr. Clarey and Mr. Kyle, of the Storemen and Packers' Union; it was necessary for a decision to be arrived at, as otherwise the Union would ask for the enforcement of the present award, inspection of packing sheds, and payment of back money (from the beginning of the season).

A compromise had been agreed to as from week ending April 9, 1938, which would prevent claims for back payments. Report received and adopted on the motion of Messrs. Carne and Douglas.

Cultural Research.

Letter received from Southern Fruitgrowers' Association requesting the calling of a conference of kindred associations to consider experimental work to be carried out in future seasons, viz., Black Spot control in Pears and Apples, Codlin Moth in Apples, also Codlin Moth in late Pears, and to discuss finance.

It was decided to agree to the calling of the desired conference, at a date to be fixed subsequent to the June meeting of the Executive.

Southern Fruitgrowers' Association.

The Southern Fruitgrowers' Association wrote requesting the opportunity for a delegate from that Association to be present at meetings of he V.F.M.A. Executive. It was decided to agree to this procedure.

Mr. W. Phillips, Elwood, wrote thanking the Executive for assistance re man for Argentine orchards, and that Mr. Clive Heaslip, of Harcourt, had been selected.

Next Meeting.

It was decided to call the next meeting on Friday, June 10.

The meeting then closed.

HIGH QUALITY PACK.

Unusual Position of Dried Vine Fruits

FOR MANY YEARS growers of dried vine fruits have been striving for a top-grade crop. The A.D.F.A. and the packing houses obtained the co-operation of the C.S.I.R., and for several years experiments have been conducted at the Merbein Research Station with the object of discovering how the general quality of the Australian pack could be improved. In association with the Merbein station, or independently of it, a number of growers conducted experiments, all with the same object of improving the pack. The aim of all was to get top grade, or as near to it as growing and drying conditions would permit. The packers encouraged these endeavors in every possible way; the A.D.F.A. fixed prices according to grades, with a premium for top grades.

And now this season, without any special effort, hundreds of blockers have attained grades for which they have striven unsuccessfully in most of the preceding years! An exceptionally favorable season, plus the knowledge that growers have acquired as the result of experiment and research, has resulted in a pack that has never been equalled for both tonnage and quality.

This creates a problem for the controlling body. There is only a limited market for the super-grade at prices that show a substantial premium over the next grade. There is the further fact that the Australian industry has a regular market for several thousand tons of two-crown fruits on markets where the consumers are earners of low wages. These consumers can purchase only at a low price. It is still too early for a survey of the Australian pack that will reveal the quantity of lower-grade fruit available, but probably there will be sufficient to supply the usual demand. In any case the leaders of the industry realise the importance of keeping faith, as far as is possible, with all customers, whether the demand is for high or low grade fruit.—W.B.H.

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Tasmania: State Fruit Advisory Board.
New South Wales: Griffith Producers' Co-op. Co. Ltd. Batlow Packing House Co-op. Soc. Ltd.

Market Notes & Prices

FRUIT PRICES IN THE SYDNEY MARKET.

Survey of Operations for the Period March 25 to April 25, 1938.

By L. T. Pearce, Market Representative, Fruitgrowers' Federation of N.S.W.

Apples:

Apples have predominated amongst the fruits arriving in the market during the past four weeks, Tasmanian supplies continuing heavy. The rejects from export that comprised the chief N.S.W. supplies have latterly given place to fairly heavy deliveries from the Batlow district. Some good fruit is arriving from the Blue Mountains, but supplies from Western districts have been scarce, and arrivals bore evidence of the continued dry weather that has been experienced for many months.

Jonathan Apples which were plentiful from the North of Tasmania are now coming chiefly from the South, large sizes from the North showing the advance of the season. Values for Tasmanian fruit have probably averaged 5/- to 6/-, with an improvement to 7/- recently; this price, as the week advanced, usually receding a little.

The greater quantity of fruit contained in the Batlow pack again appealed to buyers, and latterly 8/-, with a few 9/- was obtained for counts 113 to 163, count 138 at times being a little less popular.

Tasmania is still forwarding Duke of Clarence, which variety is not popular, although holding its quality better than the Tasma Pride. Fancy have not been very noticeable, but Cleopatra and Granny Smith (Tasmania) sold to 8/-. There has been a steady demand at all times for good cooking types, and London Pippin early in April sold to 7/-, but latterly, due to larger supplies, values receded. N.S.W. Granny Smith steadily increased in popular favor and 6/- became 7/- as the quality improved, while at the present time they are selling mostly to 9/-, with shipping lines to 11/-. Delicious have appeared from Tasmania, Victoria and a few from this State, most of the latter being good grade only. Releases of Extra Fancy N.S.W. Delicious, however, are now being made from cool store at up to 13/-.

Export of Apples to U.K. continued and, for the period February 12 to April 2, 58,866 bushel cases and 22 half bushel cases left N.S.W.

Present prices are as follows:—Fancy and Good Grades: Cleo. (Tas. and N.S.W.), 4/- to 6/-; Del. (N.S.W.), 7/- to 12/-; Del. (Tas.), 6/- to 8/-; Del. (Vic.), 7/- to 10/-; Fanny (N.S.W.), 3/6 to 6/6; Fanny (Tas.), 3/- to 6/-; G.S. (Tas. to 8/-), N.S.W. 4/6 to 9/-, shipping higher; Jon. (N.S.W.), 4/6 to 7/6; Jon. (Tas. and Vic.), 4/6 to 6/6; King David (N.S.W. and Tas.), 3/- to 5/-; London Pippin (N.S.W.), 4/6 to 6/-; Tasma Pride (Tas.), 3/- to 5/-; others 3/- to 5/- per bushel. Extra Fancy higher.

Pears.

Considerable activity was experienced in relation to Pears, particularly during the last two weeks, when small sizes of Winter Cole that had been under offer at as low as 4/- improved to 7/-, and selected counts went to 11/-. Packham's Triumph also improved to 12/-, Vic. and Tas. mostly realising to 10/-. Gansell's Bergamot finished and Beurre de Cap., although still appearing, were practically finished by the middle of the month. A few Keiffer, Josephine and Winter Nelis are now showing, and these are experiencing good demand at slightly lower values than the more popular types. Winter Coles have been plentiful from Tasmania, and latterly the Batlow district in N.S.W. has been forwarding steadily. In the Batlow pack count 198 (2⅜ in) has been in request at 11/-. Although the supply of Apples has been light from the Orange district, it is reported that a good crop of Packham's Triumph Pears has still to be marketed.

Export of Pears continued, and up to April 2 19,328 bushel cases, 27 half bushel cases and 847 three-quarter bushel cases had been dispatched overseas.

Prices:—B. Bosc (N.S.W. and Tas.), 5/- to 8/-; Glou Morceau (Tas.), 6/- to 8/-; Keiffer (N.S.W. and Tas.), 5/- to 7/-; Jos. (N.S.W.), 5/- to 9/-, few 11/-; P.T. (N.S.W., Vic. and Tas.), 9/- to 12/-; Winter Cole (Tas. and N.S.W.), 7/- to 12/- per bushel.

Bananas:

Extremely adverse weather conditions have made the marketing of Bananas a most difficult matter. Rain has occurred on a number of occasions, making roads and creeks impassable, and, in some instances, causing severe erosion on plantations. As a result, supplies have been intermittent and, as is usually the case when marketing has been delayed, some fruit was included that was too advanced in maturity to enable effective handling at the marketing end. Prices, in consequence, have had a fairly wide range and latterly have been up to 30/- per tropical case. Queensland has forwarded steadily and efforts have been made to keep all markets supplied with a quota during the shortage. Prices:—According to the Banana Marketing Board of N.S.W. for Regulation graded, first quality fruit. Six, seven, eight and nine-inch fruit, 22/- to 30/- per tropical case. Country order quality higher.

Citrus Fruits:

Grapefruit: New season fruit from coastal areas has latterly appeared in increasing quantities, much of it being rather small in size. The fact that only imported fruit of good quality was available has enabled fairly good values to be obtained for some of this coastal fruit, but a quick decline in values is expected as better quality N.S.W. fruit appears. The nominal value of this fruit is 4/- to 6/-, with some sales to 9/-, while Queensland artificially colored fruit sold to 18/- at the beginning of April, but latterly has been sold at between 8/- and 15/- per bushel. Palestine fruit was available about the middle of the month, this fruit being under offer at from 30/- to 32/6 per export box. A further shipment from U.S.A. arrived last week-end and this is now under offer at from 30/- to 35/- per Cal. case.

Lemons.—The customary Summer scarcity of Lemons continued until the second week in April, values for some months having been to 12/-, with better quality to 14/-, and even extremely plain grade fruit selling at 5/- and 6/- The last week, however, the position has entirely changed, through the influx of the coastal and metropolitan Winter crop, and values are now mostly at from 4/- to 7/-, with special quality to 9/-, and some wastage is occurring, particularly in fruit that has been artificially colored. Stocks of this fruit that were left in the market over the Easter holidays suffered considerable wastage. Queensland fruit is still arriving, this being of exclusive quality and from 13/- to 16/- is being obtained. Present prices:—N.S.W. Special and Standard: Local (colored and partly colored), counts 80 to 113, 4/- to 5/- counts 125 to 150, 5/- to 7/-, counts 163 to 216, 7/- to 8/-, few 9/-, smaller 4/- to 6/- per bushel. Plain grade, 2/- to 5/; green, 4/- to 6/ per bushel. Inland: 7/- to 9/- per bushel (few only).

Mandarins.—Although a few second crop Mandarins are still appearing from N.S.W., new season fruit of the Imperial type is now taking precedence, and when well colored and graded this fruit is selling at from 4/ to 6/- per half bushel.

Oranges—Valencias: Main crop from the Irrigation Area is experiencing a very extended season, and, although arrivals are not considerable, they are greater than is customary for so late in the year. Large sizes have predomianted and some difficulty has been experienced in realising full value for these, but after Easter counts 80 to 113, which had been very slow to move, cleared satisfactorily at from 8/- to 12/-, the more popular counts not generally realising very much more.

Second crop are still appearing, the fruit varying in quality as it has done throughout the entire season. Present prices:—N.S.W. Second crop, 2/- to 5/-, few higher, inferior unsaleable per bushel. Inland, main crop, 7/- to 12/-, few 14/- and higher, per bushel.

Navels: One shipment of Californian Navels reached the market early in April, and were quickly cleared at 45/- per Cal. case. N.S.W. new season Navels appeared early in April, and are now to be seen on many stands in the market. Many of these are of the Thompson type. This fruit is still lacking in color and the nominal values are 6/- to 8/-, with a few sales higher. Queensland has forwarded a few cases of artificially colored fruit, these being under offer at 14/- to 17/- per bushel.

White Siletta.—These have been appearing during the last two weeks, the pale yellow color attracting buyers, whereas the fruit is mostly sour and unpalatable. Nominal values are 4/- to 6/- per bushel. This money probably again being lost to the industry, due to the reaction upon the public and their distrust of other Oranges.

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Grapes:

These have appeared in steadily reducing quantities, the Purple Cornichon now predominating. These have mostly sold at 5/- to 6/-, latterly becoming 6/- with a few 7/-. The M.I.A. quality this year has not been as large as usual, and much of the fruit has been disfigured by dust, due to the dry weather conditions experienced.

The Orange district has continued to forward Black Muscat and Gordo, the former selling to 10/-, the latter to 8/-, with a few 9/-. A few Doradillos continued to appear, and some small-sized Ohanez, and both these types realised 5/- to 7/- per bushel. Good inquiry has been experienced for Ohanez for export purposes to the East, and an attempt has been made to forward Cornichon in cork also. Present prices:—Inland: Purple Cornichon, 6/-, few 7/-; Black Muscat, 7/- to 9/-, few 10/-; Gordo, 6/- to 9/-, few 10/- per half bushel. Inferior in all types lower.

Melons:

Most arrivals of Californian Cremes, Cantaloupes and Honeydews have latterly been small in size, indicating old age in the vines. As a result, most sales have been from 4/- to 8/-, while, on the other hand, large-sized fruits of counts 16 to 21 have sold up to 12/- when graded according to size and maturity.

Persimmons:

These are now less plentiful, values being nominally 2/- to 4/-, with some sales of large, firm fruit, free of all defects, higher per half bushel.

Passionfruit:

Chief arrivals have been coming from the Mangrove Mountain-Kulnura district, and prior to Easter prices went to 18/- per half bushel. Supplies have since been a little more plentiful, and values have receded to 12/-. Prices:—N.S W., 8/- to 10/-, inferior lower, few special to 12/- per half bushel.

Quinces:

Small sizes have comprised probably 80 per cent. of arrivals, and have sold mostly at 4/- to 5/-, but, where the fruit was well-developed and clean in the skin, up to 8/- has latterly been received, per bushel case.

Tomatoes:

Seasonal conditions have caused this fruit to be scarce, supplies being confined for some time almost entirely to Victoria. Latterly the M.I.A. has forwarded some very choice fruit, and the Gosford district has also forwarded. The Portland crop in Victoria is almost finished, and the quality is not quite as choice as it was some weeks ago. Dry weather prevented the Bathurst and Orange districts from forwarding their usual quantities. Prices:—N.S.W., 7/- to 10/-; colored, 12/- per half bushel. Victoria, 16/- to 18/-, few higher per bushel; 7/- to 9/- per half bushel.

VICTORIA.

Melbourne (30/4/38). — The following prices were quoted by the Victorian Wholesale Fruit Merchants' Association—Per case: Apples, eating, 4/- to 6/6; choice higher; cooking, 2/6 to 4/6; choice higher. Bananas, double case, green, 16/- to 23/-. Cantaloupes, 4/- to 8/-; few higher. Grapes, 6/- to 16/-; choice higher. Grapefruit, 7/- to 16/-; choice higher. Lemons, 7/- to 14/-; choice higher. Vals., 6/- to 16/-; choice higher; Navel Oranges, 8/- to 14/-; choice higher. Passionfruit, half case, 3/- to 7/-; choice higher. Pineapples, 10/- to 16/-. Pears, 4/- to 8/-; few higher. Tomatoes, 8/- to 16/-; choice higher.

The Melbourne market manager of the Federal Citrus Council of Australia reports that quotations were as follow:—Vals., average standards, 5/- to 9/-; selected, 7/- to 13/-, a few 14/-; specially selected, to 18/-, a few higher. Navel Oranges, Thompson's and Washs., specially selected standards, 84-96, 9/- to 10/-; 112-126, 11/- to 12/-; 140-184, 13/-, a few 14/-; selected, 8/- to 12/-, a few 13/-; average standards, 7/- to 11/-. Lemons, average standards, counts 140-275, 8/- to 10/-, a few 11/-; 300-330, 6/- to 8/-; smaller, 4/- to 5/-; good standards, 9/- to 13/-, a few 14/-; specially selected, to 15/-, a few higher. Grapefruit, new season's Marsh seedless, specially selected, 35-53, 11/- to 13/-; 60-75, 14/- to 15/-, a few 16/-; 84-96, 13/- to 14/-; selected, 10/- to 14/-; average standards, 8/- to 11/-, a few 12/-

QUEENSLAND.

Brisbane (20/4/38). — Messrs. Clark and Jesser report as follows:—Local supplies of Apples are now practically finished and our market is well supplied with Victorian and Tasmanian Apples and Pears. The ruling values are: Apples, Jon., 2¼, 2¾, 7/- to 8/-, smaller sizes 5/- to 6/-; Del., 7/- to 8/-; G.S., 7/- to 8/-; Cleos., 6/6 to 7/-; D.C., 5/- to 6/-; G.F., 6/- to 7/-. Pears: W.C., 8/- to 10/-, smaller sizes 6/- to 7/-; B.B., 6/- to 7/-. Oranges: 5/- to 7/-; Navels, 9/- to 10/-. Lemons, 12/- to 14/-. Grapes: Purple Cornichon, 8/- to 9/-; Ohanez, 8/-. Passionfruit, 12/- to 15/-. Custard Apples, 1/6 to 2/6 qrt. case. Pineapples, 8/- to 9/- per case. Bananas: Green, 15/- to 17/- case. Tomatoes, 7/- to 9/-. Celery, S. Aust., 20/- crate.

Brisbane (26/4/38). — W. Arkell & Sons advise as follow: — Apples: Jon., 6/- to 8/-; Del., 6/- to 9/-; G.S., 6/- to 8/-; other varieties, 5/- to 6/-. Pears: W. C., 7/- to 10/-; G.S., 6/- to 7/-. Oranges: 5/- to 8/-; Navels, 8/- to 11/-. Lemons: 9/- to 12/-. Last week, owing to a temporary shortage of colored Apples, Jons. touched 9/-. W. Cole Pears are arriving in forward condition, and agents are having difficulty in clearing at satisfactory prices.

SOUTH AUSTRALIA.

Adelaide (29/4/38). — Apples eating), 3/6 to 4/6 case; do. (cooking), 2/6 to 3/6; Bananas, 28/- to 30/- crate; Grapes (dark) 9/- case, do. (white) 9/-; Lemons, 8/- to 9/-; Oranges (Navel), 11/- to 12/-; Passionfruit, 18/-; Pears (eating), 8/- to 9/-; Quinces, 3/-.

WESTERN AUSTRALIA.

Perth (22/4/38). — Apples: Jon., flats 5/- to 6/6, dumps 6/- to 12/3 (special to 12/9); Dunn's, flats 4/6 to 6/6, dumps 4/- to 8/6 (special to 9/9); R.B., flats 4/- to 7/6; G. Smith, flats 6/6 to 8/-, dumps 5/6 to 10/6; Cleo., flats 4/6 to 5/6, dumps 4/- to 9/-; Nickajack, dumps 4/- to 8/-; Del., dumps 7/- to 11/- (special to 12/-); other varieties, flat 3/6 to 6/-. Citrus: Vals., flats 15/6, dumps to 24/-; Navel, flats 8/- to 13/- (special to 14/-); Lemons, 3/- to 9/- (special to 10/-, others from 2/6). Other lines: Pears, Bartlett, flats 8/ to 11/6; other varieties, flats 3/- to 9/3, dumps 4/6 to 9/-; Grapes, open, white 7/- to 10/- (special to 11/3); closed 5/6; colored 4/6 to 9/6; Passionfruit, half-dumps 8/- to 12/- (special to 15/-); Tomatoes, 2/6 to 8/6 (special to 9/6, others from 1/-).

NEW ZEALAND.

Dunedin (22/4/38). — Messrs. Reilly's Central Produce Mart Ltd. advise as follows:—The colder weather has affected business during the week. Apples are still in over-supply with a limited enquiry. Some very fine quality Jons., Dels., and Cox's Orange are now coming forward from Central. Apple supplies of cooking Apples are also available. During the week good supplies of Pears have been received.

Tomatoes are now in shorter supply with an increased demand, and values have advanced for these. Small consignments of local hothouse Tomatoes are coming forward, and realising good values.

Gros Colmar Grapes are arriving on the market in small quantities.

The shortage of supplies of Oranges will be relieved from to-day, when part of the shipment ex the "Port Hunter" will come to hand by the "Port Whangarei." The Jamaican Seedless Grapefruit and the balance of the Oranges ex this boat will come to hand next week.

Ample supplies of ripe Bananas are now available at reasonable prices. A further shipment of green fruit ex the "Matua" will arrive next week.

Prices (per case): Cal. Lemons 55/-, N.Z. Lemons 12/- to 14/-, Jamaican Grapefruit and Oranges to arrive ex the "Port Hunter," Bananas, ripes, 20/- to 23/-; Pineapples, 22/6. Apples: Cox's Orange, extra choice 7/- to 9/- small sizes 4/- to 5/-; pitted and wasty unsaleable; Jons. 4/- to 6/-; Del., 4/6 to 6/6; Golden Del., 5/- to 6/-; G.S., 5/- to 6/-; Cooking Apples, 3/6 to 5/6; Quinces, 4/- to 5/-; Conference Pears, 6/- to 8/-; W.C., 4/- to 7/-; B.B., 6/- to 7/-; Buerre Clairgeau, 6/-. (Per half case) Pear: Conference, 3/- to 4/-; B.B., 3/- to 3/6; W.C., 2/- to 3/-; W.N., 3/6.

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The Pig Pen..

Suitable Feed for Pigs

THE GENERAL PRINCIPLES of the feeding of pigs and their practical application was recently dealt with in an article by Mr. F. Bostock, of the Hawkesbury Agricultural College, N.S.W. After dealing with the feed requirements of pigs according to the purpose for which the animals are kept and the necessity for a balanced ration, the following hints as to food values are given.

Maize.

Of all cereals, Maize is the richest, or one of the richest, in carbohydrates and fat. Maize, when fed alone, furnishes an inefficient ration, especially for growing pigs, and when being hogged down, or fed either on the cob or shelled, must be supplemented with some protein-rich food.

Pigs fatten well on Maize, but, unfortunately, it produces a soft bacon of inferior quality to that from pigs fed on other grains, and for this reason should never constitute more than 50 per cent. of the grain ration, a more desirable figure being 35 per cent.

Barley.

Of all grains, Barley is recognised as the best for fattening pigs. It produces a pork and bacon of the first quality, and an outstanding feature is that the fat produced is hard and white being free from greasiness.

It may be fed alone or with other grains.

Wheat.

Wheat may be fed alone or with other grains. It is an excellent feed for pigs, yielding firm flesh and a satisfactory fat, and possessing a nutritive value equal to Barley, while from a protein point of view it is superior to Barley. One disadvantage is that when ground it is inclined to become doughy when moistened, and for this reason should only be cracked.

Oats.

Oats are not as a rule used as a pig food owing to the large percentage of husk and also to the fact that when fed to young pigs they sometimes cause scouring.

Oats produce a good quality pork or bacon.

Peas.

These are rich in protein and are, therefore, useful in balancing such gains as have a high carbohydrate content. Fed alone they produce a very hard, lean flesh, and young pigs do not thrive on them.

Good results are obtained when Peas are mixed with other grains, but they should not constitute more than 25 to 30 per cent. of the ration.

Millet.

If fed alone Millet will produce pork or bacon of inferior quality and inclined to be soft.

For the best results Millet should be mixed with other grains and should never exceed more than 30 to 35 per cent. of the ration.

Beans.

Beans also produce pork or bacon of inferior quality when fed alone, but can be profitably used with other grains, though they should not form more than 15 per cent, of the ration.

Rice.

Rice if fed in excessive quantity will produce flesh inclined to be soft.

Owing to the large percentage of husk, rice should not exceed 25 to 30 per cent. of any ration.

Sorghum.

Kafir, Milo and Feterita grains have a fattening value equivalent to 80 to 85 per cent. of maize. They produce bacon that is inclined to be soft and of inferior quality, for which reason they should not constitute more than 35 to 50 per cent. of the grain ration.

Because of the hardness of the kernels, grinding or soaking may be found necessary for young pigs.

Outstanding qualities of these grains are their drought resistance and sureness of cropping.

Potatoes.

Potatoes consist of about 75 per cent. water and 25 per cent. dry matter, which for the most part is composed of starch. In view of this large quantity of water, 4 lb. of Potatoes are generally accepted as being equal to 1 lb. of maize or wheat. This brings the question of bulk into prominence, and while Potatoes may be fed to all classes of pigs, best results will be obtained when pigs are sixteen to eighteen weeks of age, at which stage the digestive tract will have grown sufficiently to cope with the necessary bulk, and one-third of the grain ration may be replaced by Potatoes. As the pigs become older the proportion may be increased. Thus, by the time the pigs are about twenty-three weeks of age two-thirds to three-quarters of the ration could be replaced, but it would not be advisable to go beyond this point.

Usually Potatoes are of too great a value to be used as pig food, but when they are available they should be boiled.

Peanuts.

Peanuts may be fed to pigs of all ages, but will produce soft or oily bacon. Owing to their very high oil content (about 36 per cent.) peanuts should be eliminated from the ration at least six weeks before the pigs are ready for market.

Soybeans.

Soybeans are also excellent food for young pigs, but should be used in the same manner as peanuts; their high oil content (about 17 per cent.) will produce soft pork or bacon.

Pollard.

Pollard is a valuable addition to grain foods, helping very considerably in balancing the ration, and its fineness makes it very suitable for young pigs. When fed alone it is inclined to produce soft flesh, the best results being obtained when used as a supplement to grain foods.

Bran.

Bran, when fed wet, has a laxative action and is useful in preventing constipation in sows. It is usually given just before or after farrowing.

It is not to be recommended as a fattening food.

Meat Meal.

Meat meal, a protein-rich food, is a by-product of the meat works, and is very valuable in balancing grain rations when milk or milk by-products are not available.

Linseed Meal.

Linseed meal should form only 6 per cent. of a ration. It is a protein-rich food having a fairly high oil content, and has a laxative action.

Cotton-seed Meal.

Cotton-seed meal is not recommended as a pig food, but when it is fed to pigs they thrive for a few weeks and then sicken and, unless placed on other foods, may die.

Brewers' Grains.

Brewers' grains, a by-product of the brewery, are composed of the husks from the grain remaining after the soluble constituents have been removed. They cannot be said to be suitable for pigs owing to the large amount of indigestible fibre they contain, and to the oil content, which has an adverse effect on the quality of the carcass.

Cocoa Meal.

Cocoa meal cannot be recommended as a food for pigs, and has been known to cause abortion in sows.

Skim-milk and Butter Milk.

In supplementary value, skim and butter milk excel any other single feed. They are especially recommended for pigs just weaned, as they are very palatable and digestible; they usually contain between 3 and 4 per cent. protein, which supplements well the proteins of farm grains. Skim-milk and butter-milk are also rich in essential mineral elements.

While both these feeding stuffs are of equal value for pigs, precautions must be taken to see that the butter milk has not been diluted by the wash water. Both should be pasteurised or boiled in order to prevent the possibility of tuberculosis.

Their high value is shown by the fact that roughly 100 lb. can be considered worth half as much as a bushel of maize.

When these by-products are fed in small amounts they have a higher value per lb. than when they form a large proportion of the ration. Young pigs require larger proportions of milk to grain than do older pigs. It will be found that about one gallon of skim or butter milk per day will balance a maize ration for pigs from weaning age to market weights. During the period of rapid growth (between 90 and 130 lb.) 1½ to 1¾ gallons may very profitably be utilised.

Whey.

Whey has a value of approximately half that of skim milk or butter milk.

Poultry Notes

Preparing for the Hatching Season.

THAT IT WAS NECESSARY to have a definite plan of operation before the hatching season in order that the number of chicks hatched can be regulated according to the brooder capacity was stated recently by Mr. E. Hadlington, Poultry Expert, N.S.W. Department of Agriculture. in the Department's Gazette. Without actual experience in handling chickens this is rather difficult.

It is, of course difficult to lay down hard and fast rules as sometimes it is desired to hatch out large batches at one time, and sometimes it is spread over the season. The latter course is the better as a finer selection can be made.

It will be found, however, that for hatching throughout the season, about 70 to 80 hens and pullets will be required to produce each 1,000 chicks. It may be necessary to mate up some extra birds to start off the season while egg production is low, but the eggs of these birds need not be used later if they are not up to the standard. As portion of the hens may not be in laying condition at the beginning of the season it may be necessary to increase the number if a greater proportion of hens is used.

For the incubator capacity it is safe to allow a 500-egg capacity for each 1,000 chickens to be hatched throughout the season. On a small farm it is satisfactory to have two or three small machines rather than a large one.

If handling 1,000 chickens it is preferable to have about eight brooders of approximately 100 chick capacity. The reason for this is that a brooder that would accommodate 100 chicks when they were hatched would not be large enough for that number later on. It is therefore essential that the

(Continued on page 36.)

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Office : 21 Wholesale Fruit Market, Queen Street, Melbourne. Phone F 4866.

POULTRY NOTES
(Continued)

number in each brooder should be reduced until no more than 50 per brooder are left at the end of six weeks.

Results to hand of the Hawkesbury College competition show a general improvement. **White Leghorns,** on the whole, were up to a very good standard, the best seen yet in competitions. **Australorps** were of fair average quality, **Rhode Island Reds** of excellent quality, and the **Langshans** rather mixed.

The main fault seemed to be crooked or curved breasts, about 25 per cent. of the birds being affected. As two points may be deducted for this defect, it is well for competitors to pay particular attention to this point. Other faults included feathers on the shanks or between the toes of the birds, and side sprigs on the combs. In accordance with the utility standard, any birds showing side sprigs on combs will be rejected in future.

There were 540 birds entered and the food consumed was as follows:—256 bush. 6 lb. of wheat; 190 bush. 43 lb. of maize; 744 bush. 2 lb. pollard; 372 bush. 1 lb. of bran; 12 cwt. 74½ lb. meat meal; 327¼ lbs. salt; 23 cwt. shellgrit; 107 cwt. 62 lbs. green feed; 51 lbs. Epsom salts. The approximate cost was 8/8 per head. The food was rationed—morning mash, 60 lbs. pollard, 34 lbs. bran and 6 lbs. M.I.B. meat meal, plus 22 oz. salt; green feed midday; 66 lbs. wheat and 34 lbs. cracked maize in the evening.

The standard weight of eggs was 24 oz. per dozen. The averages of the different breeds resulted in White Leghorns laying 202.1 eggs per hen, 25.6 ozs. per dozen; Australorps, 200.3 eggs, 25.2 ozs.; Rhode Island Reds 182.3 eggs, 24.0 ozs.; Langshans, 201.3 eggs, 25.2 ozs.

During the month of May the final selection of breeding stock should be completed. Owners should remember that no matter what the pedigree of the stock may be, if the physique is poor and does not conform reasonably to the standard requirements of the breed, it cannot be expected that satisfactory progeny, from either the production and stamina viewpoint, can be produced. This appears to be the trend of breeding on many farms, and can only result in the gradual deterioration of the flocks.

Fruit Studies in Queensland

Apples, Pears and Plums

THE PROPAGATION of imported and local root stocks for Apples, Pears, and Plums has been continued in the nursery area at Stanthorpe, states the annual report of the Council for Scientific and Industrial Research (June, 1937).

Apples: Satisfactory growth was made by most stocks except Apple stocks Malling XII. and XVI. These grew poorly as compared with Northern Spy and other Malling stocks. Their failure is attributed to the drought conditions which obtained during the first half of the season. One-year-old trees of **Jonathan** and **Granny Smith** varieties have been produced on the following stocks:—Malling I., II., XII., XVI., Northern Spy and Pomme de Neige seedlings; and of Jonathan on Merton Nos. 779, 789, 793, and two local stock (D and E). These are ready for planting out for permanent field trial. Twenty-nine Apple varieties were layered to produce own-rooted trees. Of these, 26 varieties have yielded over 80 per cent. rooted shoots suitable for transplanting. Nursery stock trials have been commenced to test (i) the capabilities of four Merton and four local stocks as compared with standard stocks, and (ii) the performance of root stocks (other than Northern Spy) which are immune to woolly aphis. Attempts to propagate Apple varieties by means of hardwood cuttings were not successful. This failure may have been due to the dry spell experienced this season.

Pears. — A survey has resulted in the selection of outstanding Pear trees in the district and the propagation of root stocks has been commenced. The Malling Pear stocks have been layered.

Plums: The English Plum root stocks, Pershore, Brompton and Common Plum, rooted poorly in the layer beds. Myrobolan "B" propagates readily from cuttings. Outstanding Plum trees in the district have been noted, and the propagation of selected local stock is proceeding.

A soil survey of eight acres on the Government Reserve has been made preparatory to utilising land for the permanent stock trials. Six classes of soil are present.

NEW PEACH.

Much interest is being taken in a new Peach discovered in an orchard at Mirrigum, under conditions similar to which the famous Pullar's Cling was discovered years ago.

Mr. V. R. McNab, that enterprising fruitgrower, of Ardmona, recognised the value of the new variety as a canning Peach, budded over a large block of young trees, which came into bearing this season.

The fruit is a large yellow Peach, almost yellow at the pit, with just a slight tinge of red, bearing the resemblance of a cross between a Phillip's Cling and a Pullar's Cling, with the good qualities of both these varieties.

Time alone will tell whether this new Peach will prove to be a regular and consistent bearer, but it is spoken very highly of by the Ardmona Cannery.

POTATOES 200 YEARS OLD.

Bi-centenary Celebrations.

The birth-place of M. Antoine Augustin Parmentier, who is acclaimed as the "father" of the French Potato, recently celebrated the 200th anniversary of his death. Part of the celebrations included gifts of 10,000 tons of Potatoes to the poor of Montdidier, France.

The Mayor and other leading citizens took part in the celebrations, and with great economy, ate French fried Potatoes at Nueilly, where Potatoes were first cultivated.

HOUSE MAGAZINES.

A record of House Magazines published by firms and organisations throughout the world (for distribution amongst their own employees or for circulation amongst customers) is being compiled by a journalist, Mr. Walter Buckler, 154 Hamilton-terrace, London, N.W.8, England. He would be grateful if any readers interested would send him particulars.

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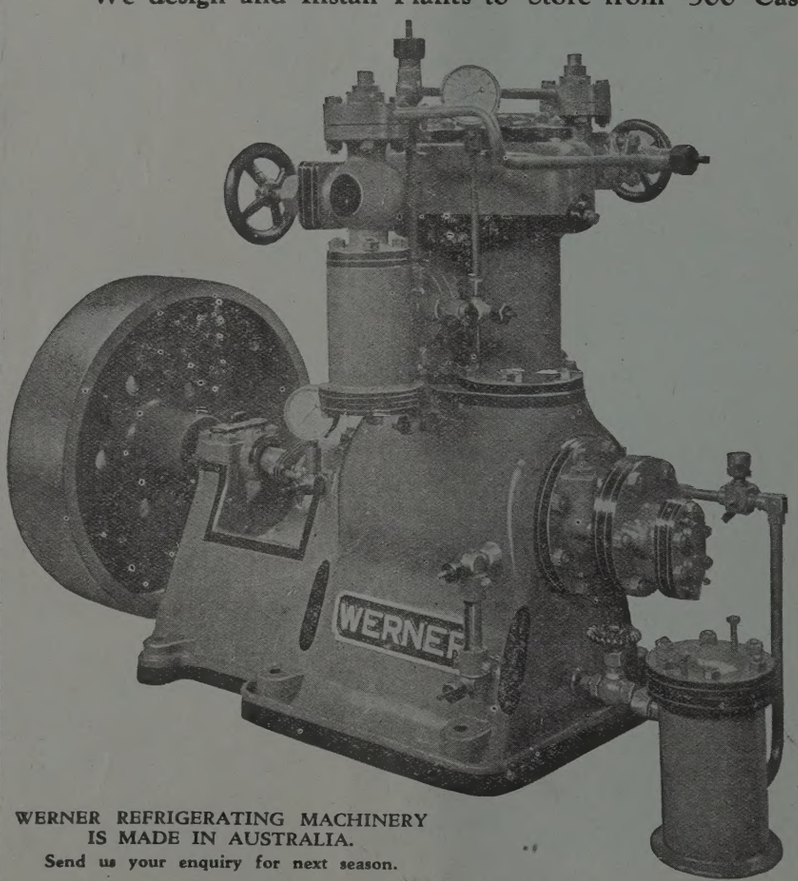

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